

Ukraine 2030

The Doctrine of Sustainable Development



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This book offers, for the first time, the sustainable development model of Ukraine that is based on a human-centred approach and presents new trajectory of economic growth in Ukraine by 2030. It was built in compliance with global megatrends and the goals of the millennium that are expected to affect the global economy in the coming decades. Based on both research and calculations made by the leading scientific institutions of Ukraine, it defines, in detail, a list of six inhibitory factors, which removal will consequently create preconditions for a Ukrainian ambitious economic leap.

This book describes the set of actions needed to achieve the horizons that are formulated in the eight mechanisms to become the main tool for further specialized development programs in Ukraine. The key idea of the development strategy, which is based on the identification of Ukraine's existing economic strengths and capabilities, is to create new strategic capacities by strengthening the existing potential.

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FOREWORD

This Doctrine entitled «Ukraine 2030» is an attempt to systematize the socio-economic development of the country. Its aim is to develop guidelines, mechanisms and horizons for the sustainable development of Ukraine.

When preparing objectives, the Ukrainian public administration usually plans only one or two years ahead. This hinders a proper identification of the social and economic priorities, their quality and progress. Thus, it is necessary to re-orient the processes that the country should follow.

At present, there are no prevailing documents in Ukraine, which would serve to set these development goals. Certainly, there is none that takes into consideration national interests and potentials or existing global challenges and threats. This document sets forth how an economic breakthrough may be achieved, and the steps required to attain it within the global community with a major goal being “human benefits”.

This view of economic development must provide reasonable answers to these questions:

What future economic paradigm will the world adapt?

What are the current strengths of the Ukrainian economy?

What state should the national economy be in to allow an innovative leap?

What are the immediate anti-crisis measures?

What are the horizons of sustainable development for Ukraine?

What analytic tools need to be in place to achieve these goals?

Identifying these issues and providing answers to them is the work of a research team of leading Ukrainian universities. Together, they analyzed large volumes of data on the socio-economic development of different countries, synthesizing

existing methodological tools of the rating assessment developed by the experts of the UN, the World Bank, and the World Economic Forum in Davos. The scenarios of the «Foresight 2016» project which was developed by a team of experts from the National Technical University of Ukraine were also used.

The Doctrine focuses on realistic mechanisms for the sustainable development of Ukraine. In turn, this will facilitate the design of application documents as well as long and medium-term socio-economic development programs. It will also provide roadmaps to ensure the success of these proposals.

For the first time, the Doctrine offers specific launch terms and the time-period needed for the implementation of the new mechanisms. This will allow for a fundamentally new path of Ukrainian economic growth by 2030 (GDP at 710-750 billion US dollars).

Creative partnerships of business representatives, members of the political elite and the scientific community have provided an opportunity to comprehensively analyze factual and statistical data. This will justify the conceptual provisions, thesis, conclusions and prognosis set forth in this document.

The research team is aware of the failure of the first attempt (that was intended to generate new ideological values and approaches) to address the most urgent tasks of the Ukrainian state. It neither posed all the relevant questions nor provided satisfactory answers. This Doctrine has identified a number of obstacles that hinder the strategic development of these approaches.

The process of developing this Doctrine has demonstrated the need for interdisciplinary synthesis, consolidated teamwork by experts, researchers and practitioners and the inexhaustible energy and optimism of Ukrainian scientists. They are all eager to generate a conceptual vision for the future of Ukraine, which will be an integral part of the civilized world's sustainable development.

The implementation of such an ambitious project as “Ukraine 2030» is a response to the expectations of Ukrainian society for the modernization of the country. The document will become an informational base for Ukrainian politicians who are specifically working on a new regulatory framework and its implementation.

This document has no political affiliation.

Instead, the Sustainable Development Doctrine calls for the public accountability of each Ukrainian politician to preserve a sovereign and prosperous Ukraine.

Five prominent Ukrainian universities: Taras Shevchenko National University of Kyiv, National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv National Economic University named after Vadym Hetman, National University of «Kyiv-Mohyla Academy», National University of Life and Environmental Sciences of Ukraine, under support of Ukrainian Business Initiative

respond to the key questions of the people of Ukraine:

- How will Ukraine look like in the nearest future - 2030?
- Where is the world moving?
- What should Ukraine do for its integration into the developed world?
- What scenarios of development are the most feasible for Ukraine?
- What is the model of sustainable development for Ukraine?
- What results do we expect from the implementation of this model?
- Which way will Ukraine be able to carry out an ambitious civilization leap?

The goal of the Doctrine is to present strategy and vision how to build a smart, sustainable and inclusive growth of Ukraine through the system errors identification. The current economic model analysis and scientific research conducted by leading experts of key Ukrainian research universities is the basis for this policy paper. The Foresight provided the strong methodological tools for analytical and information support of decision-making in the current economic policy.

Current strategies and existing development programs in Ukraine contain the crucial fallacies. After ascertaining the absence of tangible results, the Doctrine states that the **previous obsolete socio-political and economic paradigm is a key inhibitory factor that prevents Ukraine from achieving higher horizons of development causing its rapid decline up to down to being a raw material appendage of the developed countries.**

Six major inhibitory factors are depicted:

- 1. The war in the East of Ukraine and occupation of Crimea** has the negative impact on the national economy (25% of GDP lost).
- 2. The shadow economy** has reached half of GDP. The introduction of e-governance, the rule of law and the effective and equitable distribution of national wealth will guarantee this indicator not to exceed the EU average by 2030.
- 3. The extent of corruption** caused by the shadow economy reached 14% of GDP. The introduction of the anti-shadowing system to the economy can stimulate the decrease in the value of this indicator at the level of 4% of GDP.
- 4. The improper outdated pension system** accounts for 13% of GDP. Consistent and radical pension reform is capable of declining the state budget burden up to 4.8% of GDP. For this, the shift from fully solidarity pension level to the individual retirement accounts (the second level) and full operation of private pension funds (the third level) is required.
- 5. Public debt annually** costs the country 9 billion USD (almost 10% of current GDP) and occurs destructive pressure on the national economy. It should be reviewed to curb the irresponsible accumulation of the debt. The national economy needs no IMF loan but the investment security able to ensure reasonable public investment policy.
- 6. The energy intensity** of GDP exceeds 3-5 times the level of developed countries. The current level 0.298 kg of oil equivalent per USD should be reduced to 0.11 kg of oil equivalent per USD up to 2030. That should occur as a result of structural reforms and high-technology innovations along with the increasing competitiveness of the national economy.

A significant reduction of these critical inhibitory factors impact should be depicted **in the government anti-crisis program**. The government should take Six primary steps during the nearest six months since the date of adoption and approval of the Doctrine.

Anti-crisis initial steps should include **strategic decisions in three key areas**:

1) Effective response and preventive measures to the inefficiency of public administration:

- eliminate the unavailability of financial resources and investments through the credit mechanism adaptation;
- diminish critical magnitude and human capital rate of loss due to the inefficient and inequitable distribution of national wealth;
- exclude the inconsistencies of governance to the expectations of society.

2) Adapting to new demand trends in the global economy along with stimulating the internal market development.

3) The creation and development of industries with high added value. All economic sectors require substantial investments for technological renewal and productivity improvements.

According to the science-based approach to **build strategic capacity by enhancing existing capabilities**, the Doctrine proposes the decisions that should be implemented through **8 mechanisms**.

On the base of the ground-breaking (as to Ukraine) scenario forecasting approach the Doctrine proposes a model of **innovative development**.

The Doctrine approaches the requirements of the sustainable development of the national economy, namely:

- tech industries development,
- reasonable distribution,
- fair exchange and consumption,
- the principles of smart, sustainable and inclusive growth in the course of knowledge and innovation diffusion, the efficient exploitation of resources,

- stimulation of the economy as a result of the mechanisms performance: «Social Contract», «Good Governance», «Network national economy», «Stimulation of economic activity», «Creative industry development», «Effective implementation of human and social capital», «Diversification of finance funds», «Stable investment security».

Fulfillment of the mentioned above leads Ukraine to the desired social and economic outcomes:

- **social and territorial cohesion,**
- **the annual growth rates above 10%,**
- **joining the top 30 competitive countries in 2030,**
- **Ukraine should end poverty and not get into the circle of “failed” countries,**
- **GDP is expected to attain 710-750 billion USD.**

Analyzing the 2030 Agenda for Sustainable Development and comparing the current strengths and weaknesses of the national economy, **the Doctrine determines that the human capital is the main wealth and the potential of Ukraine.** Investing in people, i.e. in science, culture, education, and health makes the most anticipated result – a high-tech national economy with the sustainable, stable and comprehensive growth.

Achieving the above objectives is a major challenge of contemporary public policy. The implementation of mentioned mechanisms allows the harmonization with the public society, increases public awareness and transparency in the policy-making.

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The idea and conceptual design by Serhii Taruta

Synthesis of Doctrine

THE CURRENT ECONOMIC DEVELOPMENT MODEL OF UKRAINE

The analysis of the declared strategies and the current economic model of Ukraine indicates that the outdated socio-economic and political paradigm is a key issue that **prevents the country from reaching the horizons of balanced development and provokes a steep fall to the level of a raw material appendage to the developed countries.**

The systematic analysis of socioeconomic processes conducted by leading experts and research universities revealed six major inhibitory factors. Their elimination will create preconditions for an ambitious leap of Ukraine.

1. **Up to 25% of GDP - losses from military operations in the East of Ukraine and occupation of Crimea.**
2. **35% of GDP - the level of the shadow economy**, and according to expert assessments, the share of shadow sector in the national economy is at **50-52%**.
3. **14% of GDP** reached **the extent of corruption** caused by the shadow economy.
4. **More than 13% of GDP** - an inadequate outdated pension system, which causes significant negative pressure on the national economy.
5. **Almost 10% of GDP** (\$ 9 billion) will cost **the public debt annually.**
6. **Energy intensity of GDP exceeds 3-5 times** the level of developed countries.

A significant reduction in the impact of these critical inhibitory factors should be reflected in **the government anti-crisis program**. The first steps of which should be **in adopting of strategic decisions in three key areas:**

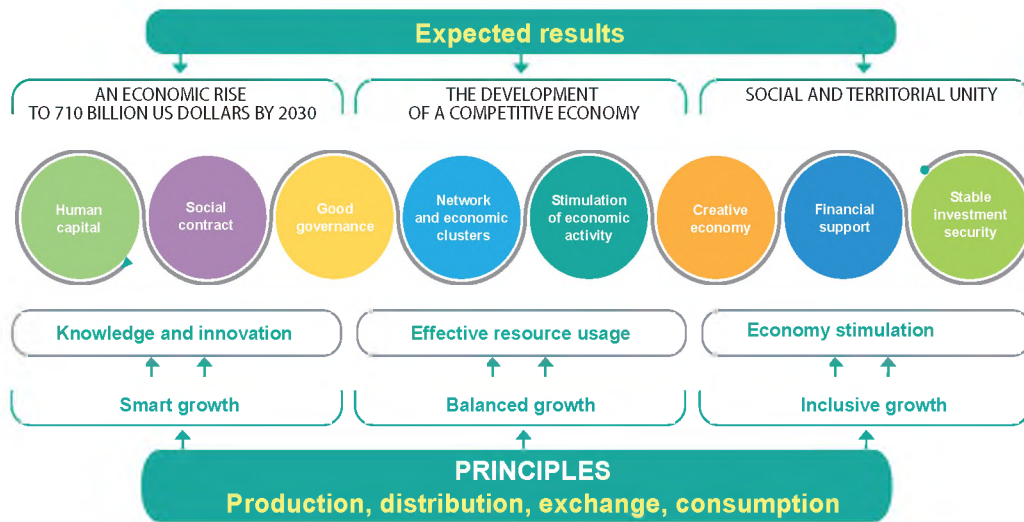


Sustainable development goals by 2030

Source: *The official website «Ukraine's Sustainable Development Goals», the UN Office in Ukraine.*

First, **effective responses and preventive measures for risks** due to inefficiencies in public administration:

- Inaccessibility of financial and investment resources - ineffective existing credit mechanism;
- The critical scale and rate of loss of human and social capital - ineffective and unfair distribution of national wealth;
- The inadequacy of public administration to the expectations of society - the lack of public control and participation.



Schematization of a sustainable development model of Ukraine-2030

Source: author's contribution

Secondly, **adaptation to the changes in demand for high-tech products in the global economy along with the simultaneous stimulating in the development of the domestic market.**

Thirdly, **the creation and development of high value-added manufacturing in the national economy.** Prospective sectors of the economy require significant investments in the technological modernization and increase of productivity and efficiency of enterprises.

The doctrine determines the human capital as the main treasure and key potential of Ukraine's development. Investing in people: in science, culture, education and health, the state can build a high-tech national economy and provide sustainable, balanced and inclusive growth.

VISION OF UKRAINE-2030 IN THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND GLOBAL MEGATRENDS

The main task for Ukraine is to create a reliable economic system that will respond to national security strategies and ensure effective competitive development in the accordance with UN SDGs (as key recommendations for governments of all countries) and take into account global megatrends.

SDGs adopted on September 25, 2015, by the UN General Assembly resolution “Transforming our world: the 2030 Agenda for **Sustainable Development**”, most fully reflect the interconnection of economic, environmental and social processes in the globalized world.

These 17 goals in the area of sustainable development are aimed at poverty eradication, reduction of inequality and protection of our planet - three key conditions essential to achieve the well-being and happiness of every inhabitant of the planet.

According to a study of global challenges by the international consulting company KPMG, “The Future State 2030”, which was held in 127 countries around the world, **9 major the planetary scale megatrends** were identified:

- 1. Demographics**
- 2. Rise of the individual**
- 3. Enabling technology**
- 4. Economic interconnectedness**
- 5. Public debt**
- 6. Economic power shift**
- 7. Climate change**
- 8. Resource stress**
- 9. Urbanization**

The identified megatrends are adapted for countries with any territory regardless of region and level of achieved well-being.

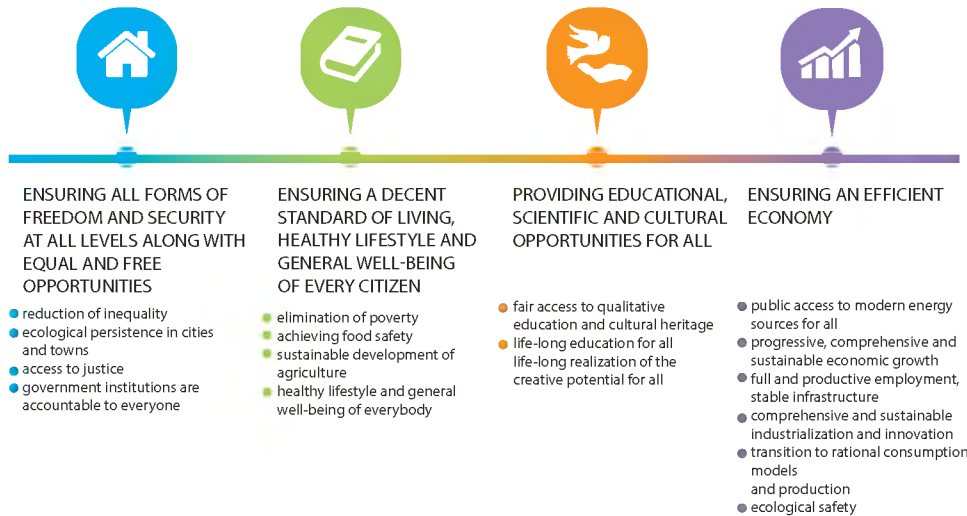
Global megatrends in synergy with the SDGs form the main development task for Ukraine in the context of key areas of government responsibility.

IMPLEMENTATION MECHANISMS FOR SUSTAINABLE DEVELOPMENT POLICY

The key content of the Doctrine “Ukraine 2030” is the sustainable development model. Its fulfilment will ensure the prosperity of Ukraine. It is based on SDGs and the impact of global megatrends (positive and negative).

The summary of the sustainable development model of Ukraine is as follows:

1. Management in any historical manner consists of **processes of production, distribution, exchange and consumption**. The balance is regulated by the economic policy, which is determined by the traditions and culture of management in society.
2. The modern development of the most advanced societies is based on the principles of **smart growth** (commercialization of knowledge and innovations), **balanced growth** (efficient and economical use of resources, development of an ecological and competitive economy) and **inclusive growth** (attraction, inclusiveness, activation of creative potential and expansion of economic opportunities)
3. The introduction of these principles requires the simultaneous start of the following development mechanisms (in the model indicated in circles):
 - Mechanism No. 1: **Human Capital** - Effective Implementation and Development.
 - Mechanism No. 2: **A Social Contract** - Defining framework rules and responsibilities of all strata of the Ukrainian community in order to reach consensus between government, business and civil society. The basis for a new social contract should be the national interests of Ukraine, connected, on the one hand, with a high level of satisfaction of the basic needs of its citizens and the provision of decent living standards, and, on the other, with the needs of national security and the expanded reproduction of high-quality human capital.



Tasks for Ukraine in the context of deployment of global megatrends and goals of sustainable development

Source: *author's construction*

- Mechanism No. 3: **Good Governance** - A new paradigm of public administration as a service. Citizens are users of services and government officials are managers. Changing the management paradigm consists in changing the communication process between government and society.
- Mechanism No. 4: **Networking and clusters of the economy.** The method of management should correspond to the level of scientific and technological progress. The ability of the country to participate in the worldwide networks of production and trade, benefiting from this, depends on its involvement in the value-added chain of networking.
- Mechanism No. 5: **Stimulation of economic activity and development of internal market** - involves institutional and structural changes aimed at creating a competitive environment, anti-shadowing of economic activity, development of the domestic market, selective support of unique innovation sectors (that generate a high added value). It supposes the activation of entrepreneurial potential on micro (households), meso - (small and medium enterprises) and macro (big business) levels.

- Mechanism No. 6: **The development of a creative economy** based on the capitalization of talent, intellectual potential and the implementation of new ideas. The creative approach, combined with accelerated economic development based on ICT, is able to accelerate the creation of strategic capacities of the national economy and provide a catalyst for its modernization and the creation of a new high-tech economy.
- Mechanism No. 7: **The financial support of sustainable development** enables to ensure a fair distribution of national wealth and a reasonable use of the results of economic activity. The consistent and integrated development of all components of the financial system of Ukraine will enable the creation of a powerful financial and investment cluster across the country.
- Mechanism No. 8: The full functioning of the financial system is ensured by a mechanism of **stable investment security**. It guarantees the inflow of foreign direct investment into the national economy. Each dollar invested in Ukraine should be directly or indirectly an investment in a citizen of Ukraine: an increase in his/her welfare, health, safety and happiness.

4. Thus, Ukraine achieves the expected result: **the social and territorial cohesion of Ukrainians leads to the development of a competitive economy**. At the same time, the indicator of development is not only the GDP in the amount of 710-750 billion US dollars, but also **indicators**, measured by the life expectancy, the ability of citizens to receive quality education, health care; by the production of cultural and scientific products; by security system and the protection of private and intellectual property. The precondition is that the results of joint efforts are equitably shared.

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INTRODUCTION

Definition:

The doctrine «Ukraine 2030» (hereinafter - the Doctrine) is a set of science-based principles, socio-economic and political mechanisms for the sustainable development of Ukrainian society.

Goal:

To create a model for the sustainable development of Ukraine by stating objectives, principles, and the mechanisms needed to achieve them.

Key objectives:

The Doctrine describes a way to modernize the national economy and public administration of Ukraine. This is done by adapting to the global trends in sustainable development, which supposes to ensure a rapid delivery of economic and socio-political results. It is hoped that a successful implementation will generate GDP of 710-750 billion US dollars by 2030.

Priorities:

To suggest a socially oriented and human-centred model for the economic development of Ukraine, and identify the creative potential of Ukraine as the main driving force for this development.

Basic principles arising from European integration of Ukraine:

- **smart growth** - economic growth, based on knowledge and innovation;
- **sustainable growth** - the development of an environmentally friendly and competitive economy by promoting the most efficient use of resources;
- **inclusive growth** - an economy with a high level of employment for social and territorial cohesion.

Key participants:

This doctrine is a consolidated document drawn up by key economic players in Ukrainian Economic Science. All the participants pooled their resources to prepare the current analysis, make scientific forecasts and construct the proposal. It is designed to ensure the peace and prosperity of the country and the welfare of every Ukrainian citizen. The document has been developed, with the active participation of the following leading Ukrainian universities:

- Taras Shevchenko National University of Kyiv,
 - National Technical University of Ukraine,
 - Vadym Hetman Kyiv National Economic University,
 - National University of Kyiv-Mohyla Academy,
 - National University of Bioresources and Nature Management of Ukraine,
- as well as with the consulting support of UNIDO (UN).

Methodology:

The methodological tools used are as followed: DELFI, SWOT-analysis, BCG, PTA matrixes, «Foresight» (scenario-based planning), economic and mathematical modelling, and strategic forecasting. It also includes the results of a questionnaire participated by 30 leading Doctors of Science and PhDs in Economics, each having more than 15 years' experience in the field.

The development of this Doctrine is based on the research and recommendations contained in the following documents:

- **Transforming our world: the 2030 Agenda for sustainable development**, the United Nations;
- **World Development Indicators 2016**, the World Bank;
- **World Investment Report 2016**, the United Nations;
- **Responsive and accountable public governance**, the World Public Sector Report 2015, the United Nations;
- **G20 Leaders' Communique Hangzhou Summit**, 2016;
- **Scenarios for Ukraine: Reforming institutions, strengthening the economy after the crisis**, the World Economic Forum, 2014;

- **The global technological revolution of 2020. In-depth analysis**, the European Foresight Monitoring Network;
- **2016 Foresight. Foresight and construction strategy for socio-economic development of Ukraine for the medium (2020) and long-term (2030) time horizons**, National Technical University of Ukraine, Igor Sikorsky Kyiv Polytechnic Institute», World Data Centre for Geo-informatics and Sustainable Development;
- **Future State 2030**, KPMG;
- **The Global Competitiveness Report 2016-2017**, the World Economic Forum;
- **Multiple Futures Project. Navigating towards 2030**, NATO;
- **The common view of the world in 2030 will continue: trends and drivers**, Strategic Foresight analysis, NATO;
- **Future Emerging Technology Trends**, 2015, NATO;
- **The Global Risks Report 2017**, the World Bank;
- **Europe 2020: A European strategy for smart, sustainable and inclusive growth**, the European Commission;
- **ESSnet-Culture European Statistical System Network on Culture**, the Final Report;
- **Creative Economy Report 2013 Special Edition: Widening Local Development Pathways**, 2013, UNDP;
- **Culture and Media 2030: Perspective of Cultural Policies**, Ministry of Culture and Communication of France;
- **QEA Report on the Prospects of Creative Industries** (KEA report on Creative Industries contribution, The Smart Guide to Creative Spillovers);
- **Climate change in the future, in 2030** (Climate Futures: response to climate change in 2030), Forum for the Future team;
- **The policy of economic pragmatism**, ISER;
- **Vision 2050**, World Business Council for Sustainable Development (WBCSD);

- **Innovative Ukraine 2020**, Institute of Economics and Forecasting, the National Academy of Science of Ukraine;
- **Ukraine - a Program of Economic Reform**, UBI, the Blazers Foundation;
- **Discover attractive for business the Ukraine**, Project supported by the EBA's member-company Dragon Capital;
- **Modernization Program**, the Federation of Employers of Ukraine;
- **What are the next steps?** Council of Entrepreneurs under the Cabinet of Ministers of Ukraine;
- **The anti-crisis program of joint actions of government and business: immediate decisions 2015-2016 years**, Ukrainian League of Industrialists and Entrepreneurs;
- **Model of Industrial Policy**, the Committee on the Industrial Policy and Entrepreneurship of Verkhovna Rada of Ukraine;
- **Public policy for NGOs**, ICPS (A Leading Independent Ukrainian Think Tank);
- **Policy Briefs of the National Institute of Strategic Studies**; (France Attractiveness Scoreboard 2015 Edition).



Part I

The current
economic
development
model of Ukraine

1.1. Characteristics of the current economic model

The current model of the national economy emerged from the wreckage of the Soviet command-administrative model. It involves controlling **high rent business over government institutions** and relying on profits that come from the export of mainly raw and low-tech products. Ineffective populist social paternalism and the corrupt redistribution of a significant share of GDP “eat up” most of these profits. This kind of model benefits businesses with short-term goals leads to a degradation of the real sector of the economy and a reduction of the global competitiveness of the country.

Over the past 25 years, Ukraine’s economy has fallen by 60% from its volume of production in 1991. This has caused the country’s slide from 10th place in Europe to the last, even though, by the indicators of industrial development, Ukraine was ranked as the fifth country in Europe. The Ukrainian share in the world’s GDP fell from 1.3% in 1991 to 0.17% in 2014. Due to this rapid decline, revealed by macroeconomic indicators, Ukraine is now achieving its worst results over the whole 25 years of its independence. In dollar terms, the GDP has halved, dropping from 183.31 billion US dollars in 2013 to 90.615 billion US dollars in 2015 (Fig. 1.1).

In 2015, the actual GDP of Ukraine declined by 9.9%, and the annual rate of decline in exports of goods and services reached 30%, the lowest rate throughout its independence. In 2014-2015, the cumulative inflation rate approached 80%. That is the highest since the introduction of hryvnia.

The national currency has lost almost 2/3 of its dollar value, while the population’s **real income** has decreased by 35%. The deep economic recession and depreciation of the national currency led to a sharp increase in poverty in Ukraine. According to World Bank experts, **the poverty rate**

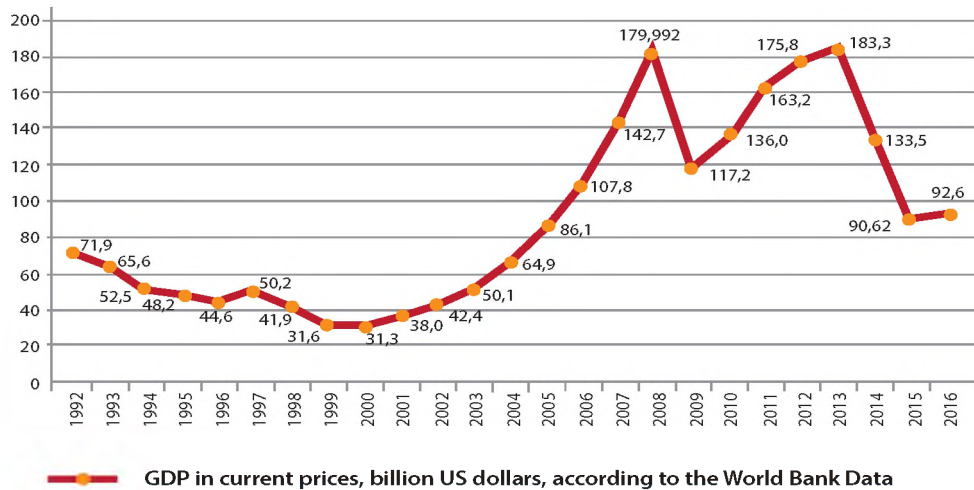


Figure 1.1. Dynamics of Ukraine GDP, in current prices, billion US dollars in 1992-2016 (2016 - calculated from forecasts of GDP growth by 2.3%)
 Source: author's contribution according to the World Bank Data.

in Ukraine (less than 5 US dollars per day in 2005 prices in PPP) increased from 3.3% in 2014 to 5.8% in 2015. **Moderate poverty** (as defined by the World Bank) increased from 15.2% to 22.2%, respectively. **The unemployment rate** by the end of 2015 grew to 9.1% compared to 7.2% in 2013.

The year 2016 was characterized by relative macroeconomic stabilization. According to World Bank experts, the first half of 2016 showed some economic growth - 0.8% in real GDP compared to the decline of this indicator by 16% in the first half of 2015. A positive shift was registered in August of 2016 with inflation falling to 8.3%. At the same time, despite these positive trends in the recovery of internal demand, the external demand still prevented a large-scale recovery in the total economic activity. Both exports and imports continued to decline in 2016 (by 4.1% compared to 2015), due to the decrease in global, raw commodity prices.

These statistics are caused by a «**debt-dependent, consumption-oriented economic model**» (see also Figure 1.2), which involves

non-systemic reforms, technological backwardness, populism and legal nihilism. The occupation of Crimea and the war in the East that resulted in a 25 % loss of GDP, should also be taken into account and needs to be subtracted from the apparent growth in 2016.

In an attempt to remedy the current situation, the Ukrainian Government is complying with the standard recommendations of creditors, set out in the IMF memoranda as an attempt to optimize the current economic model.

Furthermore, the manner in which the authorities attempted reforms, led to unclear results: the aggravation of crisis phenomena in the socio-economic system (SG aggravation of socio-economic system crisis), accompanied by price and devaluation shocks and the deepening of imbalances in the fiscal and banking spheres. Consequently, relatively low GDP growth (no more than 3-4% per annum) has not loosened the noose of debt but is leading to a sovereign default. This may significantly impede Ukraine's access to the world capital markets and ultimately condemn Ukraine as a third-world country.

THE CURRENT ECONOMIC MODEL OF UKRAINE IS NOT SUPPORTING THE RENEWAL OF UKRAINIAN ECONOMY. THEREFORE, THE AUTHORITIES URGENTLY NEED TO CHANGE IT.

The Revolution of Dignity determined the official political course of Ukraine towards European integration. The Ukraine-European Association Agreement stipulates that Ukraine must abide by European values.

These values include the establishment and adherence to the rule of law and respect for human rights and security of life. These are in accordance with the basic principles enshrined in the "Millennium Development Goals" Declaration, adopted by the UN resolution and ratified by the Verkhovna Rada of Ukraine.



Figure 1.2. *Ukraine - changes in the key characteristics from 1992 to 2016*

Source: *the data of the World Bank and the State Statistics Service of Ukraine*

However, the absence of any scientifically substantiated studies of the national economy has hindered the development of a new economy.

The current development is using an outdated and incorrect approach containing tactical and strategic mistakes. It also fails to solve the problem of how to prevent sovereign default and collapse.

1.2. Analysis of existing strategies

While well-intentioned, the current attempt of the authorities to reform the economy has created a number of unintended problems, including:

- **Management errors.** The attempt to construct a new economy within the old economic paradigm of rent.
- **Dependence on foreign and international credit assistance.** This helps to overcome certain problems but strengthens the country's dependence on creditors and limits its actions. It is a way to lose economic independence.

- **The inconsistency of strategic and program documents** regarding the country's economic development and implementation of reforms. One reason is many changes of governments and authorities.
- **Measures for financial stabilization.** Simultaneous liberalization of prices; shocking prices rise and tariffs for the population; freezing of social payments and the increase of the fiscal burden on business has led to a decrease of solvency in the population. This has resulted in the disruption of entrepreneurial activity and the threat of economic paralysis.
- **Rescue measures of the banking system are devastating** and only increase the distrust of financial institutions. The outflow of funds from banks affects loans. This covers both the population and the real sector of the economy blocking necessary structural adjustments.
- **The authorities' non-adaptability and the disparity of management model** cause shifts in influence in international spheres. It also affects interstate competitiveness and changes to state unions and associations.
- **Higher education and science (the main modern drivers of economic development) are left outside the reforms.** That has resulted in the decline of Ukraine's competitiveness. In 2016-17, it was rated in the 85th position among 138 countries - the lowest among all European countries.

A MAJOR MISTAKE IS THAT THE AUTHORITIES ATTEMPTED REFORMS WITHIN AN OUTDATED PARADIGM AND DID NOT CHANGE THE EXISTING MODELS OF ECONOMIC DEVELOPMENT AND PUBLIC ADMINISTRATION.

1.3. The old paradigm of public administration is a key factor inhibiting development

Two key reforms were implemented in the Independence epoch: the demopolization of the communist party and state ownership. Ukraine never completely achieved the de-Sovietization of the state administration. Instead, it retained the elements of an ineffective Soviet command structure and administrative management at all levels. The changes that did take place were mainly cosmetic.

The Constitution of Ukraine and its amendments were compromises to overcome many political crises. They excluded the systemic modernization of public administration which preserved inconsistent situational responses to changes of power from one presidential team to another. Ukraine, whilst attempting a transition from the Soviet command-administrative system, got stuck on a model of oligarchic capitalism instead of creating a modern effective model.

The interaction between politicians and government employees since 1991 was mainly confined to building a human resource policy that depended on loyalty to the current government and not to a professional work ethic. It is a system of serving the ruling oligarchy which does not necessarily serve the interests of the State.

THE RULING POLITICAL CLASS IS IN CONSTANT CONFLICT WITH UKRAINIAN SOCIETY. THIS PROVOKES SOCIAL TENSION AND HAS LED TO TWO REVOLUTIONS: THE ORANGE MAIDAN AND THE REVOLUTION OF DIGNITY.

1.4. The risks towards sustainable development in Ukraine: weaknesses of the national economy and critical factors inhibiting its development

In the current decade, World Economic Forum experts have estimated several global risks to the world community. These risks can be grouped as follows (see Figure 1.3).

Integral risks for Ukraine are identified in the context of global risks:

1. Inefficient governance of the public administration.
2. Critical indicators of debt load (debt noose).
3. The lack of financial resources due to lending mechanisms.
4. The critical loss of human capital.

The accumulated influence of these risks leads to devastating consequences. The absence of a timely response and preventive measures can cause a destruction of a national economy on an unprecedented scale.

THE NATIONAL GOVERNMENT OF UKRAINE URGENTLY NEEDS TO TAKE MEASURES TO ADDRESS THESE RISKS

Dealing with these risks is the daily political agenda for Ukraine. However, there are other issues to examine. Ukraine has remained aside from world investment flows and processes because of ineffective state governance. *Foreign investment in the national economy is following a model used in underdeveloped countries.* Ukraine has become a battlefield for sales, not the object of effective capital investment which could improve the technical side of production. It would also allow Ukraine to become a part of an effective

world division of labour. The low attractiveness of the country as a global production site precludes the rapid expansion of the latest technology. The index of investment attractiveness reflects the current state of the national economy. Numerous scientific studies and practice of the countries which have experienced an economic breakthrough prove that without attracting external capital, no country is capable of making a qualitative leap.

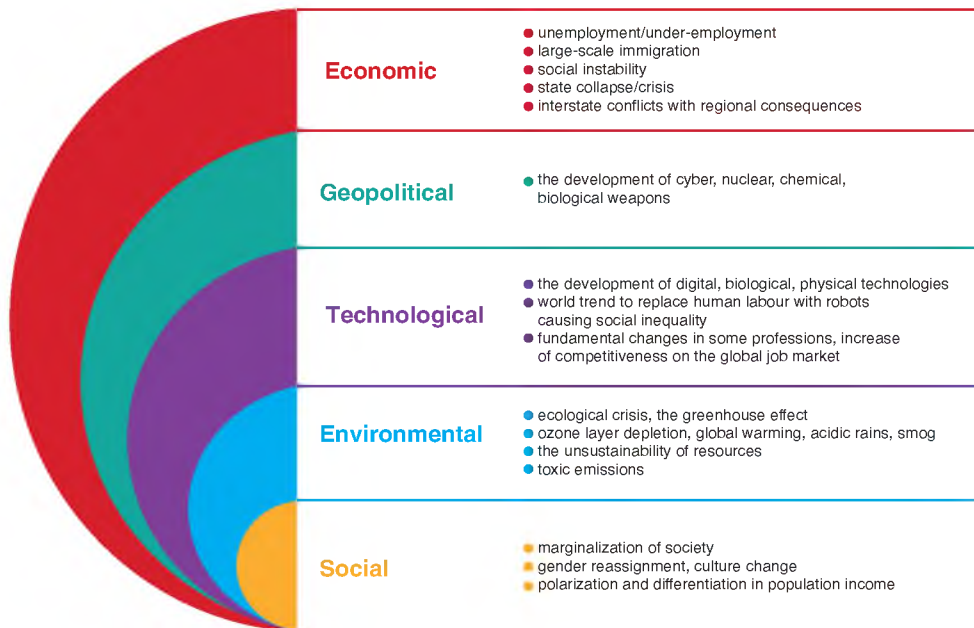


Figure 1.3. *Global risks for the next decades*

Source: *The Global Risks Report, 2017.*

The United Nations Conference on Trade and Development (UNCTAD) has estimated the relationship between a country's share in the global inflow of foreign direct investment and its share of the global GDP. In 2007, from a list of 141 countries, Ukraine occupied the 37th position in the FDI Index (Foreign Direct Investment Index) and the 48th in the FDI Potential Index. Regardless of the changes that occurred over a ten year period, in 2015, Ukraine occupied the 38th and 50th ranking positions, respectively.

For a comparison: during 1993-2000, Poland became the leader of annual direct foreign investment among Central and Eastern European countries. In the year of Poland's accession to the EU, the growth of business activity led to a significant growth of foreign direct investment (Figure 1.4). According to the IMF, the peak of investment processes fell to 2000 with 9.3 billion of US dollars. Simultaneously, the volume of exports and imports of goods increased, and the whole structure of the country's economy changed in favour of increasing the share of services.

The dynamics of Poland's macroeconomic indicators in 2000-2015 **demonstrates the synergy between foreign direct investment and the country's economic development.**

As of January 1, 2016, Ukraine had received 43.3 billion US dollars of FDI, or 1016 US dollars per capita, the lowest in Europe.

In Ukraine, only a third of the total foreign direct investment (34.5%) has gone into the real sector (industry, agriculture, development). Importantly, this investment does not include the key components of sustainable development – an increase in resource efficiency, a reduction in eco-capacity and the creation of a social infrastructure. None of them was in the priorities for private or public investment.

In 2003-2007, according to the United Nations report on world investment, the inflow of foreign direct investment to the new EU countries had increased tenfold, from 22 to 191 billion US dollars (before accession and in the first years after joining the EU). Hungary, Poland and Czech Republic (Figure 1.5) became the leading countries for foreign direct investment. In the post-crisis conditions of 2012-2015, the volume of foreign direct investment to these countries was well in excess of the figures prior to their joining to the EU (2004, 2007, 2013, respectively).

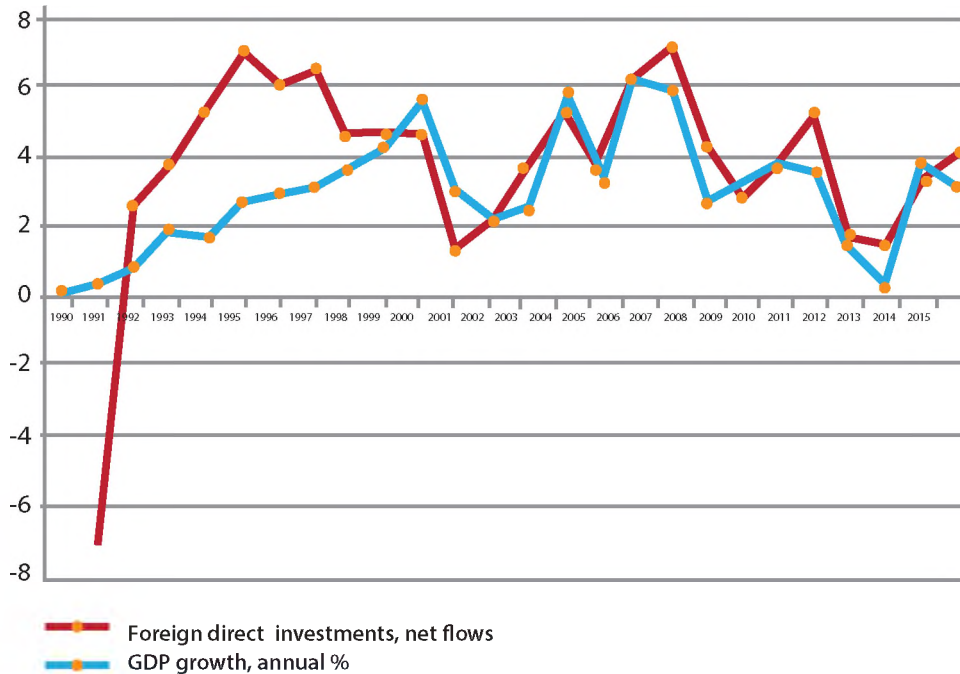


Figure 1.4. *The dynamics of foreign direct investments to Poland in the context of its GDP trend, %*

Source: *author's contribution according to the World Development Indicators*

The creation of a favourable and stable investment climate is strategically important for the security of Ukraine. The existence of both these factors will create opportunities for modernizing the national economy and the rapid dynamics of socio-economic development.

Besides the critical reduction of investment volumes, Foresight has identified several other **critical operational factors that are inhibiting Ukraine's development:**

- 1. The losses caused by the military operations in the East of Ukraine and the Crimea occupation** which have amounted up to 25% of GDP.

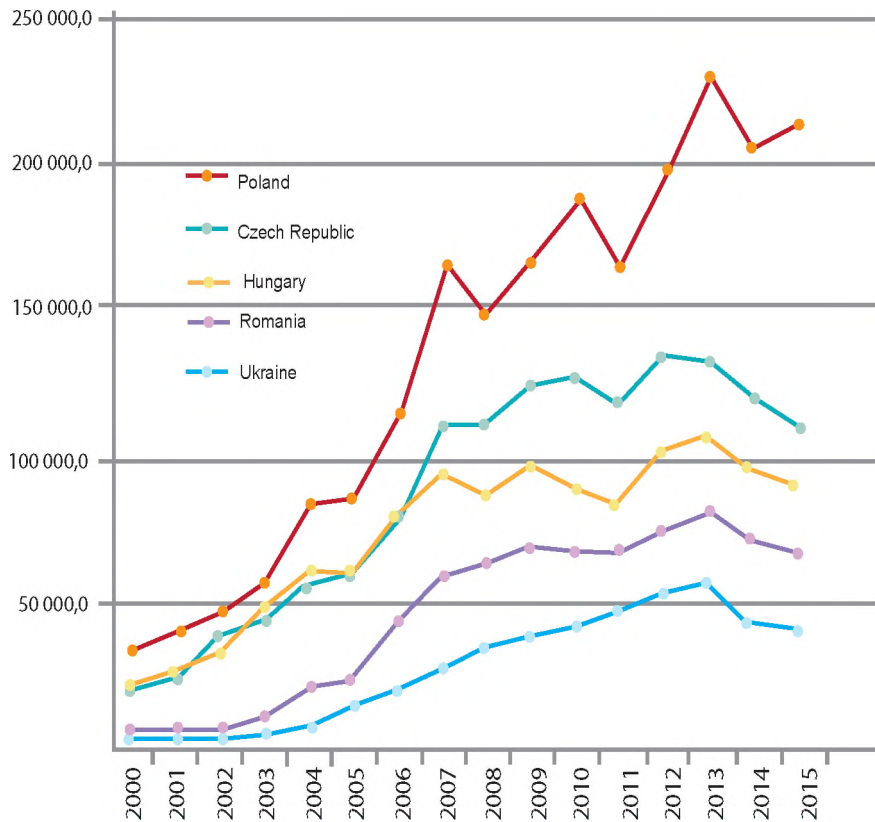


Figure 1.5. The foreign direct investment in the EU countries and Ukraine *, 2001–2015, in millions of US dollars

* Ukraine in 2014 - the data excluding the Crimea; in 2015 – excluding the Crimea and the anti-terroristic zone.

Source: author's contribution according to the UNCTAD and the State Statistics Service of Ukraine.

2. **The share of the shadow sector** in the national economy which stabilized at a level of 50-52%. In the period of January-September 2016, the level of the shadow economy accounted for 35% of GDP.
3. **The scale of corruption** associated with the shadow economy reached 14% of GDP.
4. **An outdated and inefficient pension system** caused significant negative pressures on the national economy. In the first half of 2016, the

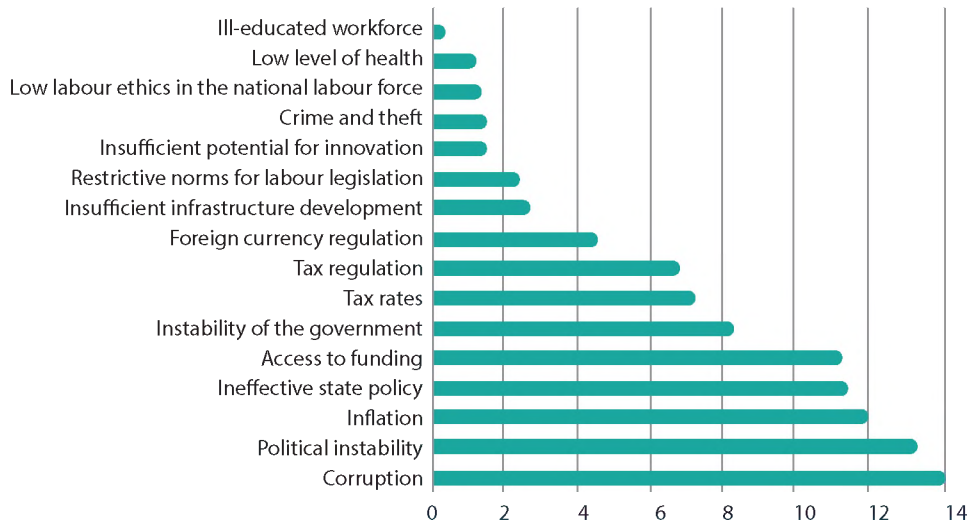


Figure 1.6. Factors of negative influence on Ukraine's economy, 2016 (0-14 - an expert scale of the factor affecting the economic growth, 14 - the greatest negative influence, 0 - the factor has no negative influence)

Source: *The Global Competitiveness Report 2016-2017.*

expenditure of the Pension fund of Ukraine amounted to almost 13% of GDP (in 2015 – 13.4%).

5. The state and state-guaranteed debt of Ukraine as of December 31, 2016, reached 71 billion US dollars. The external debt accounted for almost two thirds - 64.3% of both state and state-guaranteed debt.

6. The energy - intensive nature of Ukraine's GDP which exceeded the average world index and the indices of developed countries. According to the World Bank, in 2014, one dollar of the world's GDP (purchasing power parity in 2011), was equivalent to 0.127 kg of oil. In Ukraine, this indicator was 2.35 times higher and was equivalent to 0.298 kg of oil. In comparison, a similar indicator in other countries was: Poland - 0.101 kg of oil; the countries of Central Europe and the Baltic States - an average of 0.105; France - 0.098; Japan - 0.093; China - 0.175 and in the USA - 0.134.

Figure 1.6 demonstrates the inhibitory factors of socio-economic development of Ukraine, according to World Economic Forum. These factors have a negative effect on the national economy. They cause

the decline of society and increase the risk of keeping Ukraine as a raw material appendage of the world economy.

Part III of this Doctrine will discuss eight mechanisms for institutional, regulatory and budgetary changes that aim to decrease the negative influence caused by the above-stated factors.

1.5. The outlook for the medium and long-term development perspectives

According to the Davos World Economic Forum, three possible scenarios are foreseen for Ukraine, and among them, there is only one that shows positive signs (Figure 1.7).

Forecast studies (Figure 1.8) predict the probability of four medium-term scenarios of Ukraine's development by 2020:

- «**Optimistic**»
- «**Crisis conservation**»
- «**Sovereign default**»
- «**Collapse**»

The realization of these scenarios in the medium-term perspective will lead to the deployment of the corresponding scenarios in the long-term perspective up to 2030:

- «**Sustainable development**»
- «**Alien subjectivity**»
- «**Grey Zone**»
- «**Disintegration**»

Attempts to implement any scenario that preserves the existing model (the «**Crisis conservation**» scenario), at its best, will transform Ukraine into a «Grey Zone». This will push Ukraine down from the tenth position of economic development in Europe (according to the 1991 data) and inevitably will turn it into a raw material appendage of Europe in 2030. The likelihood of such a development stands at 50-60%. A «**Crisis conservation**» scenario will lead to the loss of Ukraine's sovereignty

followed by «Alien Subjectivity» and its internal «Disintegration» in the long run. The projected IMF growth will inevitably result in a «Sovereign default» (3% likelihood).



Figure 1.7. Strategic scenarios of the future of Ukraine's economy in the vision of the World Economic Forum

Source: World Scenario Series 2014.

According to expert estimates, to achieve rapid growth, Ukraine should mobilize its efforts and reach a targeted annual economic growth at a higher level than 10%. A lower level will not enable Ukraine to overcome the current crisis.

FOR UKRAINE TO ENTER THE WORLD'S TOP 30 COMPETITIVE COUNTRIES, IT NEEDS TO ACHIEVE AN ECONOMIC GROWTH RATE OF NOT LESS THAN 10%

BUT THE LIKELIHOOD OF THIS ENCOUNTERS ONLY 3% (!)

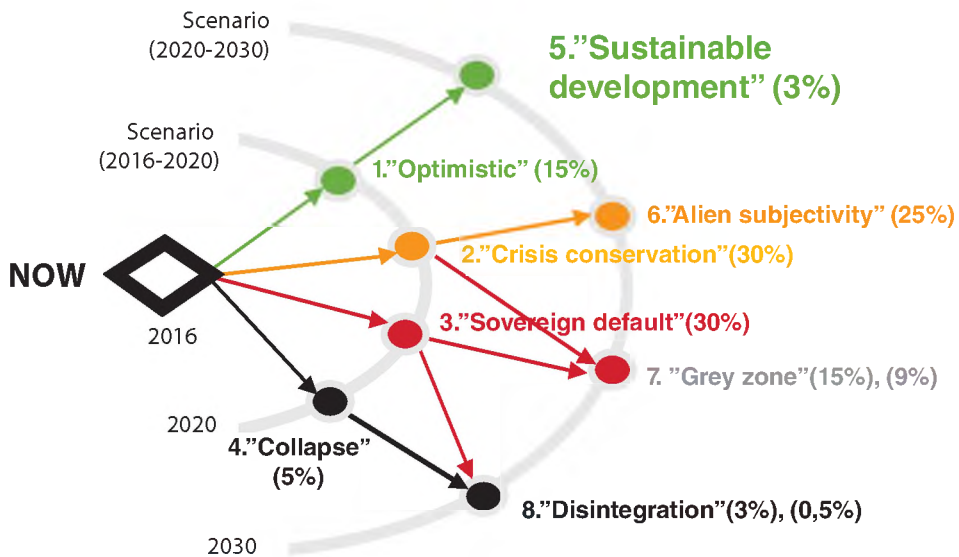


Figure 1.8. The scenarios of Ukraine's development in the medium-term (2016-2020) and long-term (2020-2030) time horizons

Source: Foresight 2016.

The forecast of probable annual economic growth for Ukraine is three percent which reflects the enormous effort that the government and society of Ukraine must make in order to preserve the Ukrainian statehood.

The preservation of the old economic model during 2017-2020, will lead Ukraine to the «**Crisis conservation**» and «**Sovereign default**» scenarios and then in 2020-2030 – the «**Alien subjectivity**» scenario with the possibility of slippage to the development of «**Grey Zone**» and «**Disintegration**». The probability of such developments is estimated at 97%.

BASED ON THE CALCULATIONS OF INTERNATIONAL AND UKRAINIAN EXPERTS, THE DOCTRINE OFFERS SEVERAL ECONOMIC AND POLITICAL MECHANISMS. IF THESE ARE REALISED, UKRAINE WILL BE ABLE TO IMPLEMENT SEVERAL POSITIVE SCENARIOS FOR SUSTAINABLE DEVELOPMENT BY 2030

Part II

Ukraine-2030: vision and objectives of economic development

2.1. The global economic paradigm: opportunities and challenges for Ukraine

Characteristics of the current development of the global economy:

- **a slowdown in the world's production growth rate.** In particular, from 4.1% in 2010 to 2.3% in 2016. This follows a trend observed since the 1960's;
- **the emergence of a new economic growth model** of the global economy with higher rates of economic growth in developing countries compared to developed ones. According to forecasts, developing countries will gradually be recognized as the main driving force behind the development of the global economy by 2030;
- **an increase in the number and depth of systemic shocks and crises** in selected regions in the world and the global economy;
- **the structural transformation of national economies** - the most successful economies are distinguished by the rapid adaptation of households, companies and governments to global change;
- **the slowdown of capital accumulation** in most regions of the global economy. There is a reduction in the correlation between global capital movement and its accumulation in less developed countries (which have a potentially higher level of profitability);
- **the emergence and strengthening of structural transformations.** These are needed to facilitate the formation of international manufacturing networks and include entry into external markets, production, employment and income growth. These networks actualize the expansion and diversification of industrial policy in different countries. In the period between 2001 and 2016, producers in developing countries, that actively integrated into such networks, led their countries to economic growth rates three times higher than other countries;
- **the transformation of the global macroeconomic environment.** This covers the regulatory co-operation and convergence of national economies.

Limitations to the instruments of state regulation, within the framework of a national economic policy, are identified.

- the emergence and / or further development of global institutions with a high level of market control over the main production factors;
- the gradual convergence of socio-economic conditions between countries, regions and the global economy;
- the gradual global liberalization of production: The WTO estimated that more than 600 regional trade agreements were signed at the beginning of 2016. The possibility of applying protectionism as a temporary, selective and limited adaptation mechanism of households and companies to global change currently exists only in the USA, EU, Russian and Chinese economies;
- the slowdown, since 2010, of the long- term trends of increasing openness in national economies. This has resulted in a threefold increase in the world exports to the world gross product ratio - from 10% in 1960 to 30% in 2014-2015;
- the global convergence of income that reflects the slowdown of GDP growth rates per capita in developed countries (from 4.2% in 1961-1970 to 1.1% in 2001-2015) as opposed to the indicator growth in developing countries (from the level of 2.6% in 1961-1970 to the level of 4.0% in 2001-2015);
- the rise of competition and / or its deformation on the global markets as a factor limiting the transition of many countries from a less developed group to a more developed group.

THE DRIVERS OF HIGH ECONOMIC GROWTH IN GROUPS OF COUNTRIES AT THE TURN OF THE MILLENNIUM

From 1990 to 2013, of all the countries of the world, only thirty have reached the highest rates of economic growth. They are arbitrarily divided into four groups:

- **oil** exporting countries (Oman and Sudan);
- **small** economies that have found one or more product niches in the world markets (Bhutan, Laos, Saint Vincent, Grenadines);

- **economies** that have implemented development strategies through an active national industrial policy and support for an underestimated national currency (China, Taiwan);
- **countries** that have access to the capacious markets of other countries or their associations (EU, US, China) and have quickly integrated into international production networks (Poland, Czech Republic, Slovakia, Mexico, Indonesia, Malaysia).

Population growth, the depletion of biological resources, rapid income stratification, and inequality among different countries confirm the predictions regarding the rapid polarization of the world countries. The division is seen within three major groups:

1) Developed countries

2) Countries that show an accelerated growth rate, such as Indonesia, Brazil, India, China and Turkey. At the same time, the likelihood for the middle-group countries (where Ukraine currently belongs) to join the group of underdeveloped countries has increased from 12% to 21%, while the probability of a transfer to the group of developed countries has fallen from 18% to 8%.

3) Poor countries, marginalized and failed states

The tough and ever-growing competition of globalized markets with high-level players requires from Ukraine a thorough knowledge of the rules of the game. The development and implementation of a long-term doctrine of sustainable development should become a pre-requisite to entering the global economic space.

Developing the Doctrine means considering current global megatrends to form a framework for the responsibilities of future governments. These responsibilities are

1. **Ensuring national security.**
2. **Ensuring social stability.**
3. **Ensuring economic prosperity.**
4. **Ensuring environment protection.**

A study of global megatrends, conducted in 127 countries, has identified nine main factors influencing the development of countries in the next decade (see Figure 2.1). (data are taken from KPMG, «The Future State 2030»).

Global megatrends are interconnected and their influence increases over time – they accelerate interdependent changes in the economic, ecological

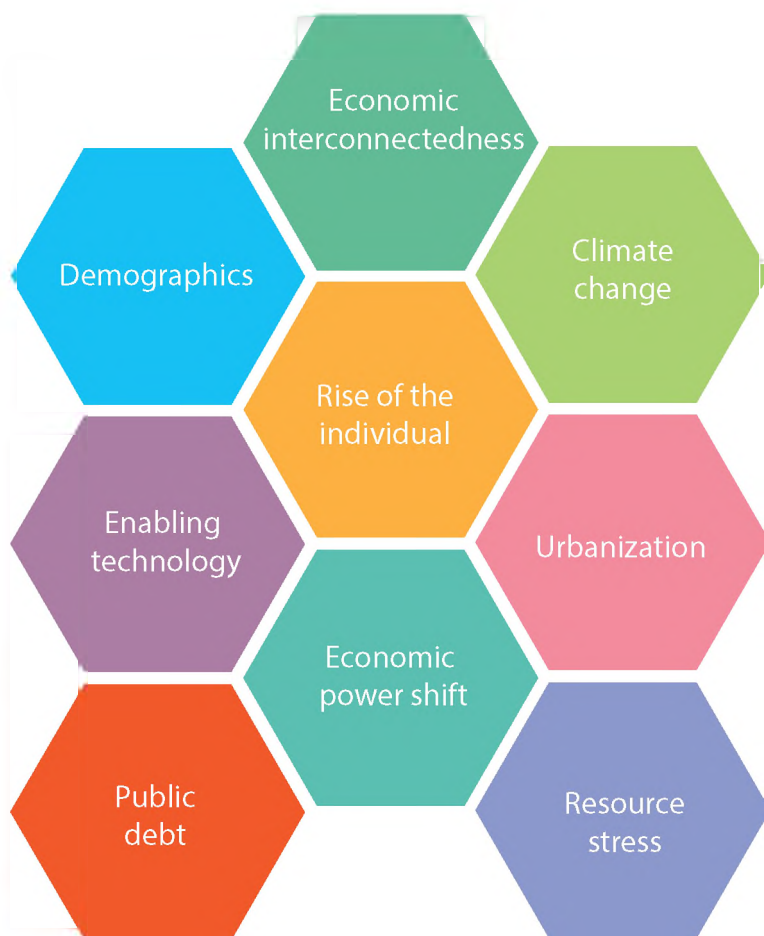


Figure 2.1. Global Megatrends by KPMG
Source: *The Future State 2030*, KPMG.

and social spheres at both individual and societal levels. These megatrends are adaptable by countries that are different in size, irrespective of their region and levels of their well-being.

The «Goals of Sustainable Development», were adopted on the 25th of September 2015 by the resolution of the General Assembly of the United Nations. The document is entitled «Transforming our World: the 2030 Agenda for Sustainable Development». It reflects the complete interconnection of economic, ecological and social processes in the globalized world. (Figure 2.2) The UN identified 17 goals in the area of sustainable development that are aimed at eradicating poverty, reducing inequality and protecting the planet. These three key conditions are crucial for the achievement of the world's prosperity and happiness.

The fast pace of change not only poses risks but also opens doors to new opportunities. Developing a policy based on a thorough analysis of the current situation and an engagement of all interested parties will ensure a full use of such opportunities and effective risk management in the long run.

These global megatrends should also form the main objectives for Ukraine. They are developed in synergy with the goals of sustainable development recommended by the UN in the context of the key areas of government. (Figure 2.3).

THE KEY CHALLENGE FOR UKRAINE IS TO PROVIDE A RELIABLE ECONOMIC SYSTEM THAT ENSURES A NATIONAL STRATEGY FOR SECURITY. THIS SYSTEM SHOULD ALSO PRODUCE AN EFFECTIVE COMPETITIVE DEVELOPMENT FOR UKRAINE THAT COMPLIES WITH THE CURRENT UN OBJECTIVES. FOR SUSTAINABLE DEVELOPMENT, THESE OBJECTIVES ARE BASED ON IDENTIFIED GLOBAL MEGATRENDS AND ARE KEY RECOMMENDATIONS TO WORLD GOVERNMENTS.



Figure 2.2. Sustainable development goals by 2030

Source: The official website «Ukraine's Sustainable Development Goals», the UN Office in Ukraine.

Ukraine's first and foremost task is to create a reliable economic system that ensures high levels of national security. It should aim at the strengthening of country's competitiveness in a globalized world by ensuring a high standard of living for every citizen.

All this objectivates qualitative changes at the government level. Impacted by nine megatrends, the future of Ukraine should be considered in two dimensions: «**What should the government change?**» and «**How should the government change itself?**»

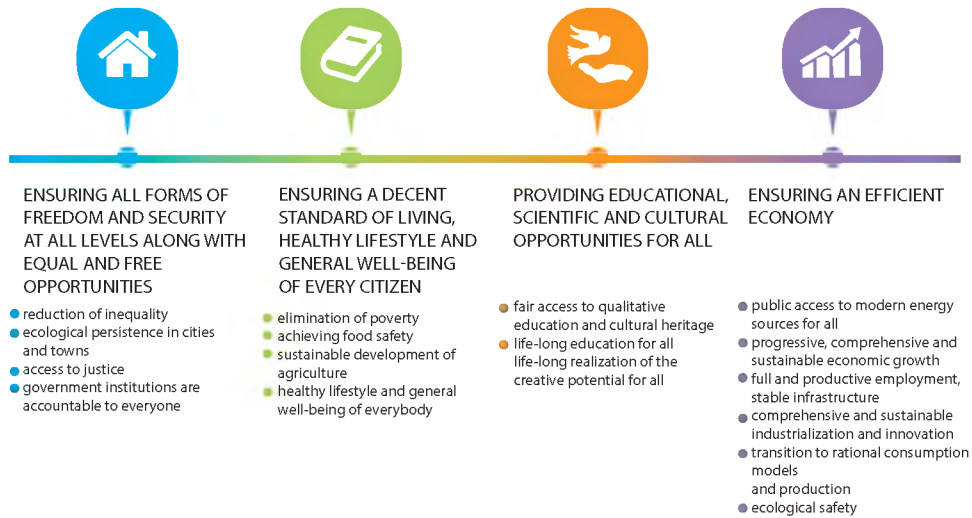


Figure 2.3. Tasks for Ukraine in the context of deployment of global megatrends and goals of sustainable development

Source: author's construction

What should the government change?

1. Strategic approaches:

- Long-term planning based on system monitoring, data accumulation, regular research, scenario approach for a long-term forecasting.
- Influence on behavioural representations - the formation of production, consumption, distribution and exchange culture in accordance with the universal values.
- Control over results and indices.
- Readiness for an instantaneous application of technological advances.

2. Regulatory mechanisms for:

- standardization of production processes;
- ensuring a fair distribution of the national wealth;
- rational consumption of water, food, energy and fuel;
- agreement on the priorities of state policy with dysfunctions of the market mechanism.

3. Directing infrastructure changes towards goals to:

- strengthen international integration;
- increase the integration level among different political areas;
- strengthen local self-governance;
- unite efforts for constructive cooperation among citizens, a local government and a private sector.

What should the government do to change itself?

1. **Systems thinking.** Public service providers should understand the systemic interaction of policies and trends, encourage openness and comprehensive development of partnerships with professionals and experts.
2. **Learn a flexible and paradigmatic way of thinking** to be able to handle change and risk management.
3. To realize that traditional areas of domestic policies have international characteristics that require **knowledge of global megatrends and their impact**. This knowledge increases effective decision-making.
4. **Improve its dissemination policy** and improve financial reporting in the context of internationalization of capital markets.
5. **Interact effectively with stakeholders**, using new media tools for bilateral communication with more demanding citizens.

In an era of change, there are new responsibilities for people and their entrepreneurial activity. The following questions arise: «**What should a person do to change himself?**» and «**What should a business do to change itself?**»

THE HARMONIZATION OF ANSWERS TO THESE FOUR QUESTIONS SHOULD BECOME THE SUBJECT OF A NEW SOCIAL CONTRACT. THAT, IN TURN, WILL BECOME MECHANISM №1 FOR THE SUSTAINABLE DEVELOPMENT OF UKRAINE. THIS IS DISCUSSED FURTHER IN THE THIRD PART OF THE DOCTRINE.

2.2. Strengths of the national economy and its competitiveness

According to a SWOT analysis and using the Foresight methodology, the strengths of the Ukraine national economy have been identified as follows:

- **Availability of multidisciplinary infrastructure** (the military-industrial complex, the aerospace industry, shipbuilding, energy, mechanical engineering, mining, transport engineering) as the basis for economy restructuring by the cluster principle (see details in Part III of the Doctrine). Over the past five years, the industrial sector of the national economy has accounted for one-sixth of Ukrainian GDP: in 2012 and then in 2016, the share of the output from the mining and processing industry accounted for 18.2% and 17.5% respectively.
- **Availability of educated able-bodied human capital**, that ranks Ukraine as 34th among 140 countries of the World Economic Forum. «The qualities of mathematical and fundamental training» ranks Ukraine as 27th. The «Higher education coverage» ranks it as 11th. It is ranked 29th for the number of scientists and engineers but only 51st for primary education.
- **The raw material resource for atomic power, renewable energy and engineering precision tools**. Ukraine has almost 20,000 deposits of which 8290 contain 98 kinds of mineral raw materials that are of industrial importance. About half of the industrial potential of the country (48%) is associated with the extraction and use of minerals, especially in precision tool engineering. These sectors employ 20% of the labour force. The Ukrainian indicators are close to the indicators of the developed countries where mining is a well-functioning industry.

- **A favorable geographic location on the Eurasian continent.** In the medium to the long-term perspective, the significance of transport corridors will increase.
- **The unique composition of Ukrainian soil (chernozem).** The territory of Ukraine occupies almost 0,5% of the earth's land, where about 20% of the world's black earth is found. Its significance is reinforced by a high level of natural fertility, a powerful potential of plant product manufacture, an extensive system of main irrigation canals and zonal scientific support for the plant growth.
- **One of the largest European markets** with more than 40 million consumers.

There is a strong possibility that Ukraine could succeed in the international division of labour. Its beneficial geographical location, availability of human potential and natural resources makes it possible to develop the following sectors of the national economy:

- agrarian;
- military-industrial;
- information and communication technologies.

It is expected that these three sectors in 2020 will contribute 43% to the overall economic growth and 53% by 2030. At the same time, by 2020, the low-tech and raw material sectors of the economy will provide 35%, that is expected to decrease to 5% by 2030. Thus, the existing structure of the national economy and the traditional model of governance can neither ensure a steady sustainable development nor the GDP growth at an accelerated pace.

THE INDUSTRIAL SECTOR OF THE NATIONAL ECONOMY MUST BE MODERNIZED. INNOVATION AND THE EFFICIENT USE OF A PERSON'S CREATIVE POTENTIAL SHOULD BECOME ITS CORE PRINCIPAL. PART III OF THIS DOCTRINE INTRODUCES A HUMAN-CENTERED MODEL AND THE MECHANISMS FOR ITS DEVELOPMENT

Ukraine has a well-educated population. Provided the national infrastructure is improved, the medical sector is modernized and effective use of existing raw materials is made, in the short-term, it is possible to identify improvement in several sectors of the economy. However, to form a clearer picture of its future strategic capabilities, one must also develop a long-term perspective. Currently, the weakest points of Ukraine are associated with the institutions, the development of financial markets and macroeconomic stability (Figure 2.4).

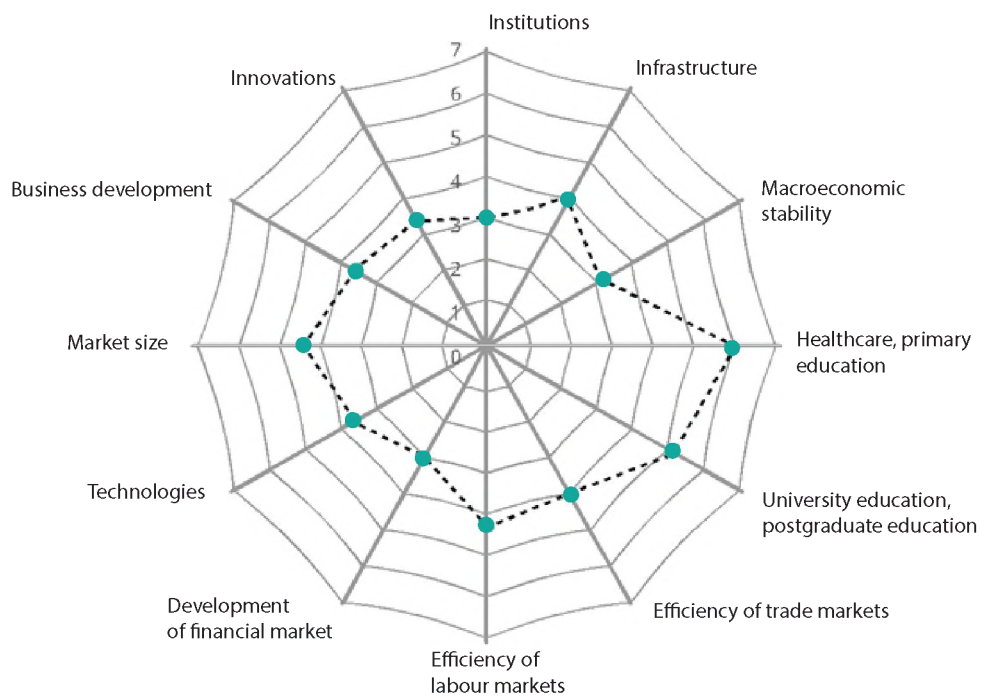


Figure 2.4. *The polygon of Ukraine's competitiveness according to the methodology of the World Economic Forum, 2016-2017 (0-7 - the scale of the component's influence on the level of competitiveness, where 7 is the highest point of its strength, 0 - absence of influence and capacity)*

Competitive advantages can be created in the domestic markets by strong leadership in the development of an innovative economy. Nowadays, developed countries form and strengthen their competitive benefits by using **effective mechanisms of intellectual property rights protection in research and development (R & D)** (Figure 2.5). A country's competitive advantage is determined by its innovative capacity.

The innovative capacity of an economy reflects its ability to generate scientific and technical knowledge. Use of new technologies and products and their accelerated commercialization allow an appropriation of intellectual and technological quasi-rents – a unique medium and long-term source of income.

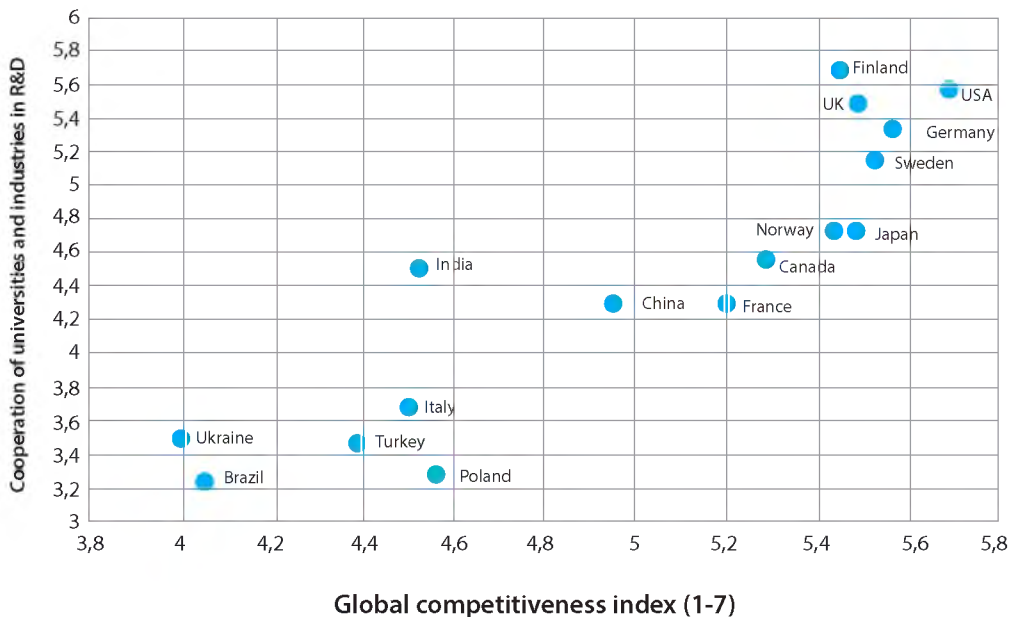


Figure 2.5. The ratio of the world countries' competitiveness depending on the level of their R & D

Source: author's contribution according to the World Economic Forum, 2016-2017.

Currently, such countries as the United States, Japan, France, Germany, the Great Britain, Sweden, the Netherlands, Finland and Israel form the world club of countries with a positive technological balance. These countries demonstrate high levels of innovation capacity. They efficiently apply an «open» innovation model using an effective patenting system that contributes to technological cooperation through the licensing and commercialization of inventions. Thanks to the effective protection of intellectual property rights, the USA, for example, receives 75-80 billion US dollars of net income annually. Protection of intellectual property rights along with developing R&D are the most powerful sources of investment. They add great potential to the country's competitive advantage.

According to the World Intellectual Property Organization (WIPO), Ukraine is one of the TOP 50 countries in the world with high inventive activity, but the annual number of patents received in Ukraine is small. In total, it only corresponds to the number of new patents portfolio of several American universities. Current dynamics shows a decrease of international patenting against an increase in the number of security documents following the national procedure. The world share of international patents received by Ukrainian applicants has decreased six-fold: from 1.7% in 2000 to 0.28% in 2014.

At the beginning of the millennium, there was a positive growth trend in innovation and intellectual property export-import activity. Between 2005-2014, Ukrainian exports grew tenfold, while imports of services related to the use of intellectual property increased four-fold. This reflected a gradual entry of Ukrainian producers into international networks of high-tech products. However, since 2015, the export and import of services related to the use of intellectual property have fallen. If such a trend continues, Ukraine will maintain its technological backwardness that, in the long run, will lead to a deterioration of its competitiveness.

ONLY BY THE EFFECTIVE USE OF THE EXISTING HUMAN CAPITAL AND THE STRENGTHENING OF ITS INNOVATIVE CAPABILITY UKRAINE CAN MAKE AN ECONOMIC LEAP AND INCREASE THE COUNTRY'S COMPETITIVENESS

A rating assessment of technological and innovative competitiveness for Ukraine and other countries can be found in several reports. The three most influential are the **Global Competitiveness Index** of the World Economic Forum in Davos, **the Knowledge Economy Index** (World Bank) and the **Global Innovation Index**, evaluated by EuroINNO with the support of the European Commission.

In the Global Innovation Rank of countries, developed by Bloomberg, Ukraine ranked 42nd among the 50 top countries in 2017. Regarding the assessment of its innovation capacity, the strongest points are its higher education system (4th position in the world), patent activity (27th) and technological capabilities of the country's industry (34th). At the same time, the level of scientific research and the level of economic efficiency ranked 44th and 50th respectively. Ukraine's high position in the **Human Development Index** of the World Economic Forum (26th world ranking) contrasts against the low **Intellectual Property Rights Index** (only 115th in the world rankings).

AS A CATALYST FOR AN INNOVATIVE LEAP, UKRAINE NEEDS TO IDENTIFY NEW TECHNOLOGIES FOR INTERNAL AND FOREIGN MARKETS. THESE WILL CREATE APPROPRIATE INSTITUTIONAL CONDITIONS

Given the limited resources for raw materials and finance, multiple tasks need to be addressed. Among them is a search for new domestic sources of investment, more interaction between businesses regarding investment and innovation processes performed at both interstate and interregional levels.

Further development of trans-border cooperation with the European Community and the involvement of Ukraine in the world production chains becomes especially relevant. It will form the basis for its entry into integration mega blocks (in particular, the EU), which presumes industrial cooperation in all spheres.

UKRAINE'S ENTRY INTO INTERNATIONAL PRODUCTION CHAINS REQUIRES CHANGES IN ITS ECONOMIC PARADIGM. THIS CAN BE ACHIEVED THROUGH THE DEVELOPMENT OF A NETWORKING MECHANISM AND THE IMPLEMENTATION OF THE CLUSTER PRINCIPLE

2.3. Catalysts of innovative leap for Ukraine: priorities and technologies

The structural reforms to be implemented in Ukraine by 2020 are preconditions for the country's sustainable development and growth. The structural transformation of the national economy, as noted before, will become one of the mechanisms for Ukraine to join international production chains and adapt to changing global demand.

The main emphasis of structural reforms is on the technological modernization of infrastructure and industrial complexes. Re-industrialization is to take place through an active state policy that encourages innovation. This includes the creation of a national network of innovation poles for growth such as technology parks, business-incubators, start-up centres and technology transfer centres.

AT THE HEART OF THESE STRUCTURAL REFORMS IS A PARADIGM SHIFT MOVING FROM THE EXISTING INFORMATIONAL MONOPOLIST STATE TOWARDS A CITIZEN-ORIENTED STATE (FROM INERTIA TO SMART DEVELOPMENT)

A workable strategy for such structural changes consists of a combination of measures including creating a civil society and implementing European standards and norms for the effective functioning of public authorities.

These structural changes will significantly weaken previously identified factors that currently hamper the development of the national economy both in the medium and long term. Ukraine will then have the prospect of joining the first group of developed countries in 2030 but it requires to make an extraordinary **ambitious leap (Figure 2.6)**. The reform of public administration and national economy, the efficient use of energy and the full use of internal capacity and external capabilities are the essence of this leap.

If the traditional approaches to economic development, such as the existing oligarchic model and a consumption economy, continue Ukraine will become a raw material appendage of the leading world countries. It will keep its position as the Third Group Country and will inevitably lose its independence.

Part III of the Doctrine will present a development model for Ukraine that takes into consideration the adaptation of borrowed technology. The process may last for decades, but such large-scale borrowing will be beneficial for the national economy and can accelerate the development of the service sector. It will allow Ukraine to reduce transaction costs (financial services online, delivery of goods by aeroplanes); to increase overall efficiency and to overcome corruption (digital payment for administrative services). It will also improve and encourage access to on-line education.

THE MAIN CATALYST OF THE INNOVATIVE LEAP FOR UKRAINE IS PEOPLE WHO BRING SKILLS AND KNOWLEDGE TO THE ECONOMY. ALL PROBLEMS ASSOCIATED WITH HUMAN CAPITAL SHOULD BE DEALT WITH URGENTLY. ANY FUTURE DEVELOPMENT IS IMPOSSIBLE WITHOUT TACKLING THE ISSUES OF SAFETY, CULTURE, SCIENCE, EDUCATION AND HEALTH.

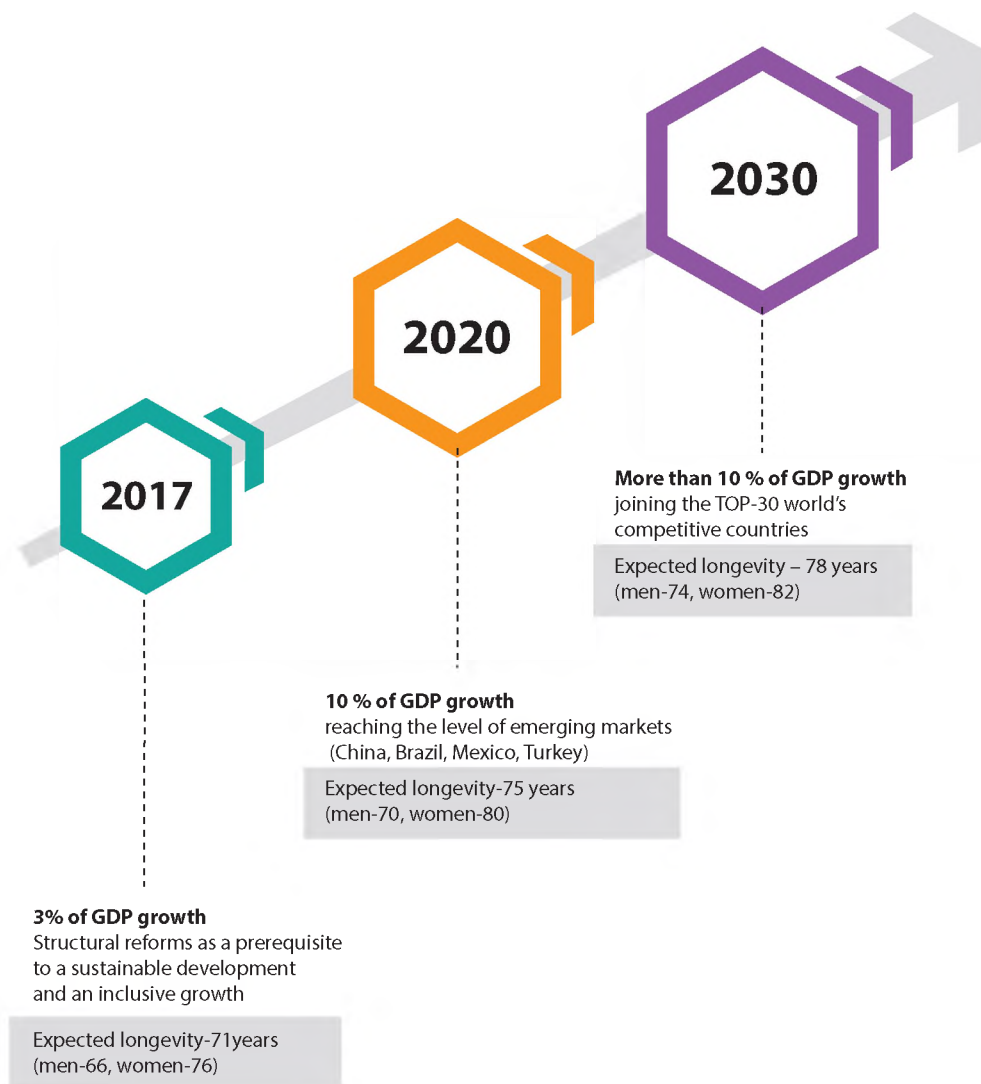


Figure 2.6. Ukraine's ambitious leap
Source: author's contribution.

ONLY EDUCATED AND HAPPY PEOPLE CAN TURN UKRAINE INTO A COUNTRY OF SUSTAINABLE DEVELOPMENT (THAT IS THE MAIN GOAL OF THIS DOCTRINE)

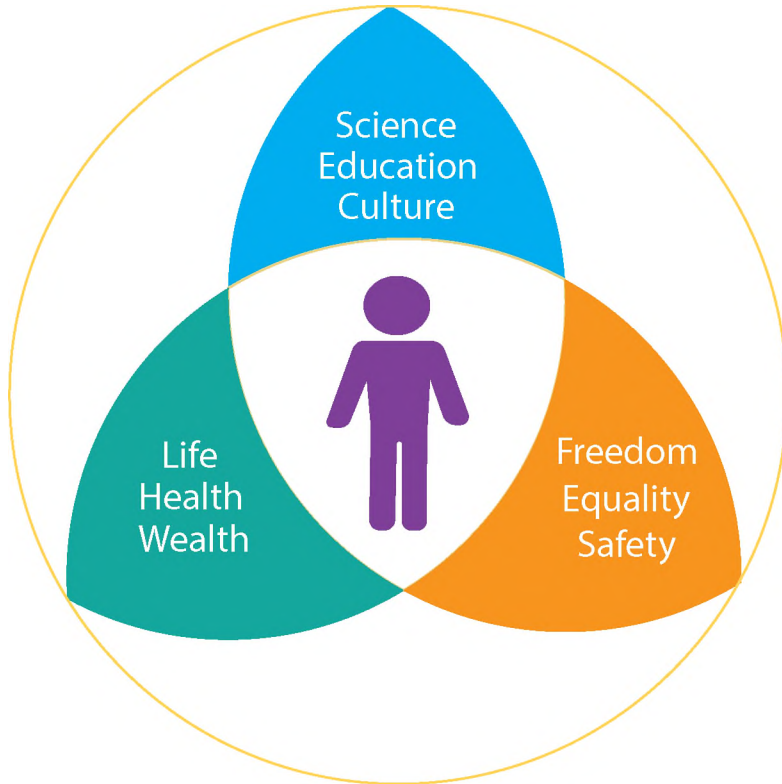


Figure 2.7. Human-centered development model
Source: *author's contribution.*

Figure 2.7 illustrates the human-centred model of development which is the main theoretical concept of the Doctrine “Ukraine 2030”. Given the potential benefits of Ukraine (human capital, geographic location, natural resources), it is important to identify the sectors of economy and types of economic activity that could create innovative high-quality products and services. They should provide a high share of value added and be in demand on the international markets.

2.4. Parameters of the future national economy

Determining parameters of the future of any socio-economic system should be based on the use of methodical tools of strategic planning.

The realization of 2020 goals is seen as a short-term perspective (horizon 1), while those of 2030 is long-term (horizon 3). The reference points for 2030 require the strengthening of the existing potential in order to construct new strategic capacities. This serves as a theoretical concept for developing a modernization strategy for Ukraine (see Figure 2.8).

ANY STRATEGY TO MODERNIZE UKRAINE IS BASED ON DEVELOPING OF NEW STRATEGIC CAPACITIES GROUNDED ON THE STRENGTHENING THE EXISTING POTENTIAL.

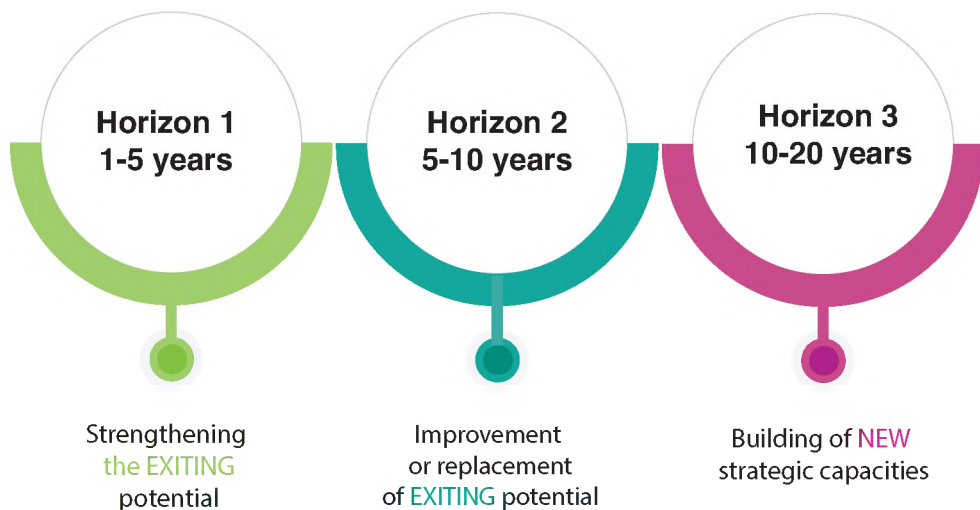


Figure 2.8. A generalized scheme of strategic planning
Source: author's contribution.

According to positive scenarios of sustainable development, **high technological industry and social responsibility** should be new qualitative characteristics of the national economy. Such an economy will generate a high demand for highly skilled professionals, accumulate significant financial resources and transform them into innovation-based, long-term investments.

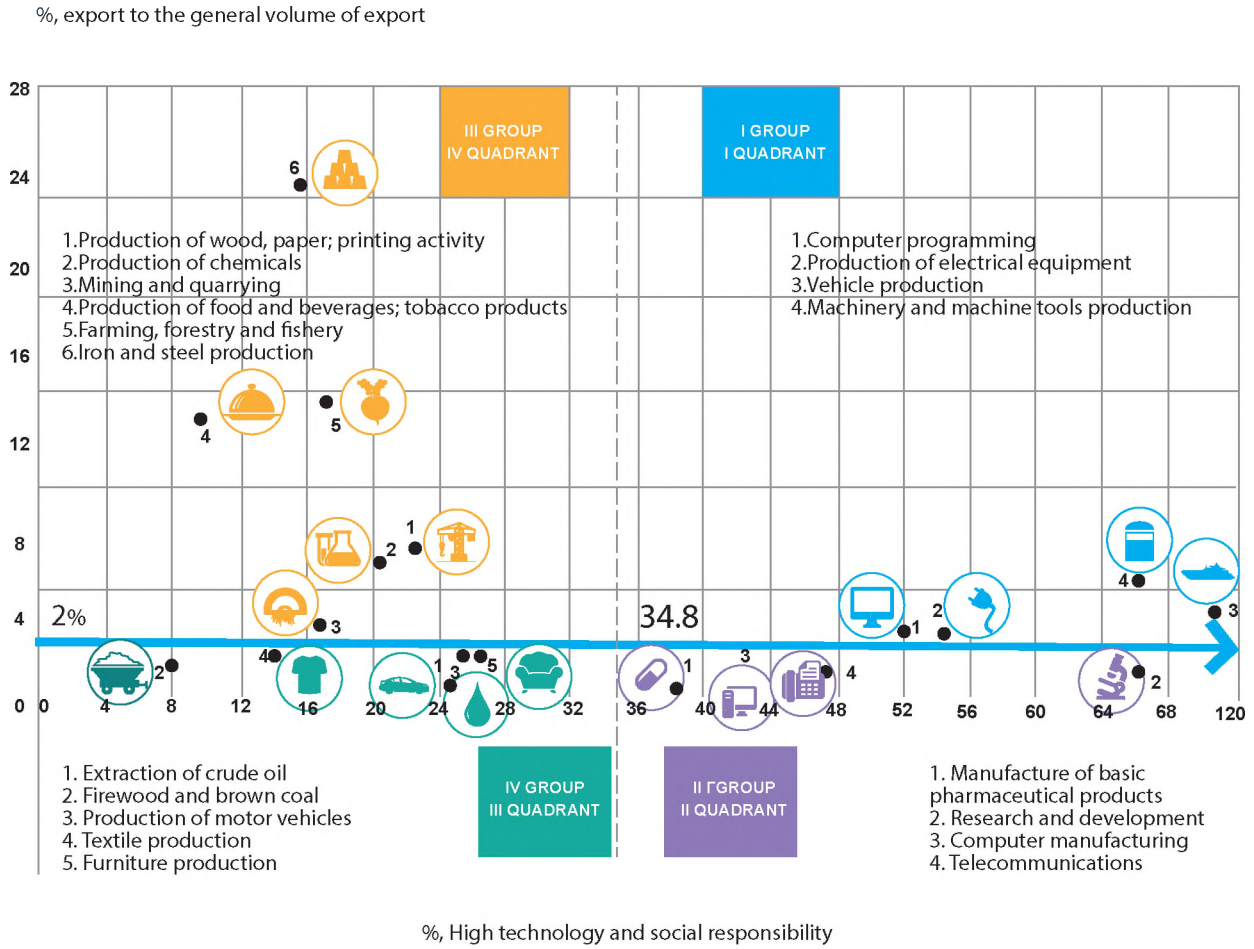
According to the findings of the Institute for Socio-Economic Research (ISER), four complementary reforms will ensure the flow of a significant investment resource and innovative ideas. These reforms will change the existing model of economy and management:

- **change in the structure of Ukraine's economy;**
- **financial sector reform;**
- **investment reform;**
- **management system reform.**

ISER specialists have proposed a **matrix of the types of economic activity** (Figure 2.9). Modern sectors of the national economy are grouped into four quadrants. Two key characteristics – **high technology** and **competitiveness** – become instruments for state regulation. The latter is aimed at supporting and stimulating the development of the relevant types of economic activity.

The first group of «strategic leaders» is formed by the aerospace and IT industries. The state support for this group is maximized and consists of direct funding; tax incentives to encourage the recruitment of highly skilled personnel; investment in innovation; expansion of research and development; reduction of mortgage costs with the help of existing and newly created institutions and development tools.

Figure 2.9. Grouping by the types of economic activity based on the BCG matrix
 Source: The Policy of Economic Pragmatism, ISER.



The second group of «potential leaders» includes industries such as pharmaceuticals or electronic and optical products manufacture. High-tech industries remain a priority, but they do not yet have sales markets.

The third group of «current leaders» is the basis for a modern national economy. These are the agriculture and metallurgical industries, though the value added they generate is relatively low. These sectors do not require special state support, provided their strong positions on foreign markets. Nevertheless, it is important for the state to provide conditions for their further development. The iron and steel industry requires re-equipment and upgrading so to strengthen energy efficiency and competitiveness.

The fourth group of «problem areas» is the area of mining, textile manufacturing, and the production of motor vehicles. These economic activities do not generate high value-added at present but have the existing potential of domestic demand. Therefore, their capacity should be strengthened so they can stay competitive in the domestic market. With proper modernization, these industries could move to another group.

Ukraine still can occupy a niche in the international division of labour based on short-term priorities and the support of economic activities of the «current leaders» group due to such competitive factors as geographic location and natural resources.

However, the developed countries place their priority on ensuring economic growth through the effective use of external and internal borrowings. Their investment into high-tech clusters provides a foundation for development that pays back in the long run. These are the types of economic activity that belong to the groups of «strategic leaders» and «potential leaders».

A group such as the «strategic leaders» is very dynamic in terms of accelerating the rates of scientific and technological development and corresponding priorities (Figure 2.10).

Potentially important directions for Ukraine:

- Adaptive technologies, nano-and biomaterials, renewable energy sources, highly automated production.
- Robotics (technology of artificial intelligence and intelligent systems).
- Informatization (cloud technologies, mobile communication and portable computers of new generations).
- Humanization (genetic engineering, nano-biopharmacology, synthetic biology).
- Ecology (low carbon non-waste production, a technology of ecosystem restoration and pollution control).

To achieve sustainable development, the economic activity of the groups «**strategic leaders**» and «**potential leaders**» should become the main drivers of innovation leaps. They need to be supplemented by other types of prioritized economic activities such as scientific and technological development. Their dominance, in the long run, will ensure a qualitative change in the parameters of the national economy. It is only possible to achieve this leap through the development of human capital.

This conclusion is supported by the Foresight research that states that such high-tech economic activity groups as «strategic leaders» and «potential leaders» are capable to contribute to the country's economic growth at **up to 50%** by 2030.

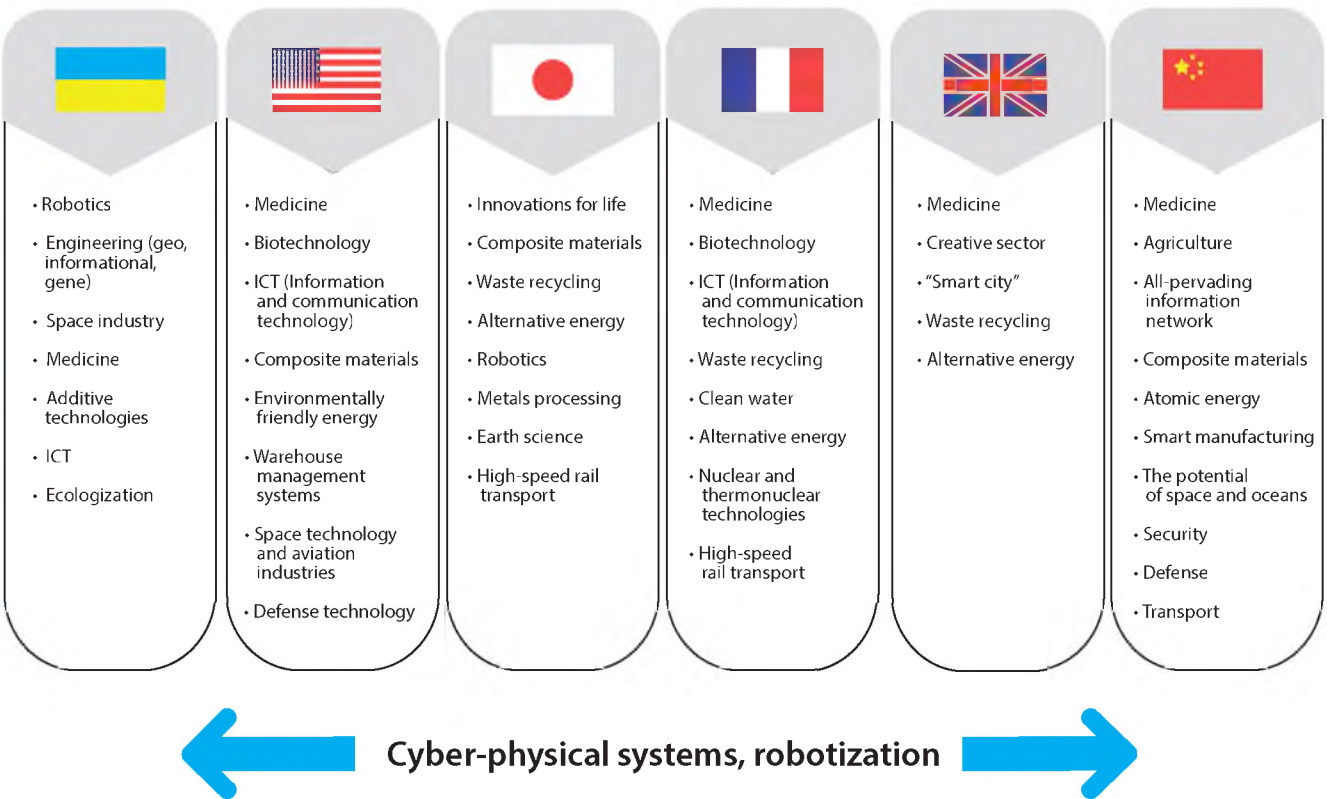


Figure 2.10. The priorities of the world centres of scientific and technological development
 Source: A Common Perspective of the World in 2030 and Beyond, NATO

As mentioned before, human capital through employment and self-employment in the high-tech sectors of economic activities can generate a strong demand for innovative products and services on the domestic market. They, themselves, will also become solvent customers.

AT THE MACROECONOMIC LEVEL THE QUALITY OF SUSTAINABLE DEVELOPMENT DEPENDS ON ACHIEVING A STRUCTURAL BALANCE BETWEEN INVESTMENT AND HIGH-TECH ACTIVITIES. IT WILL BE REFLECTED IN A HIGH RATE OF ECONOMIC GROWTH AND A HIGH LIVING STANDARD FOR EVERY CITIZEN.

2.5. The horizons of sustainable development in Ukraine

The horizons of socially oriented economic development, referred to as «**sustainable**» (the Declaration G20 in Hangzhou), can be determined by certain mega indicators. They allow a quantitative evaluation of the main characteristics that compose the human-centred model (Figure 2.11).

EVEN A LEADING INDICATOR OF ECONOMIC DEVELOPMENT (SUCH AS GDP INDICATOR) DOES NOT REFLECT THE QUALITY OF LIFE OF THE POPULATION. THIS EVALUATION CAN ONLY BE DONE BY USING THE PROPOSED TOOLKIT OF MEGA INDICATORS.

A person is seen as the main driving force and a source of sustainable development. His happiness and creative potential are measured by the Happy Planet Index and the Human Development Index. The Legatum Prosperity Index then is used to check the adequacy of the previous two.

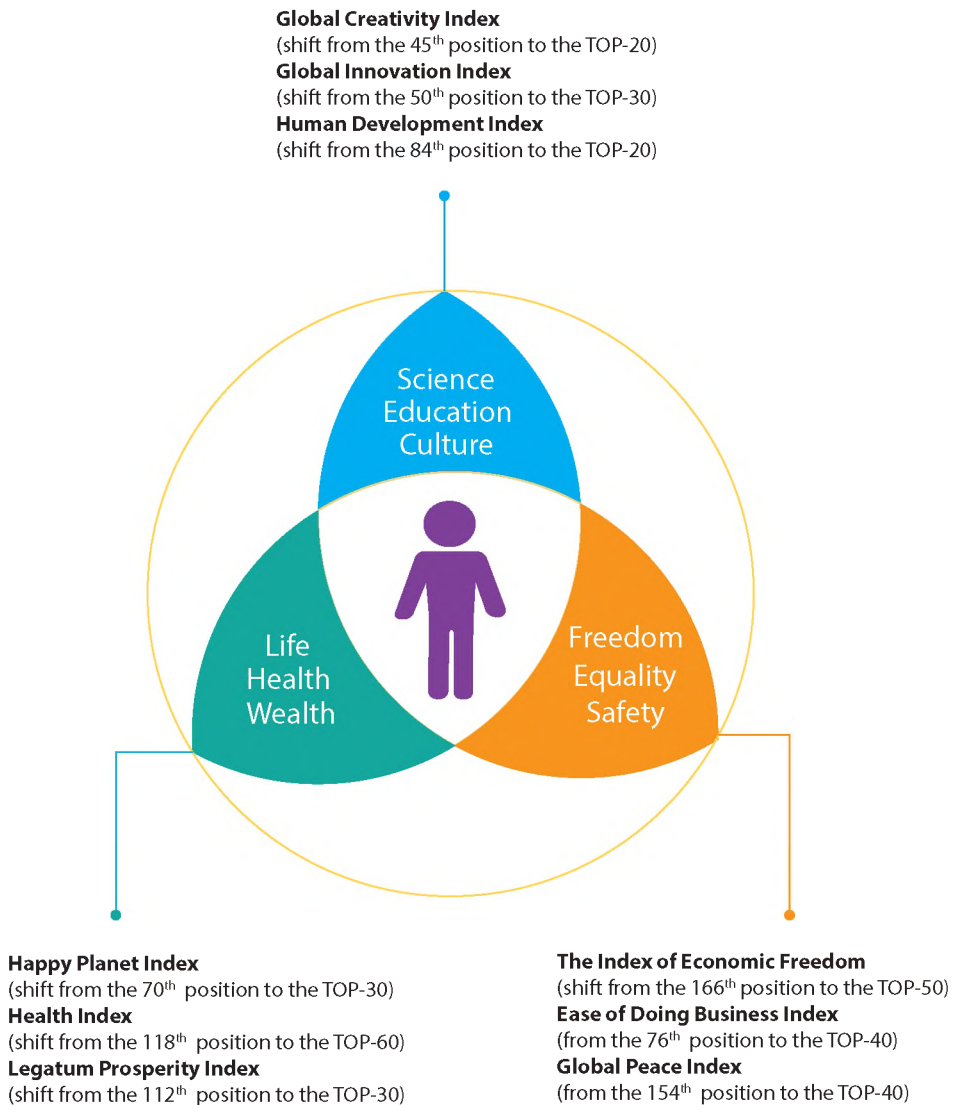


Figure 2.11. *The horizons for Ukraine – 2030*
Source: *author's contribution.*

THE FOLLOWING INDICATORS MEASURE «LIFE, HEALTH AND WELFARE»:

1. **The Happy Planet Index** (World Happiness Report) measures how efficiently people from different countries use natural resources to ensure a long and happy life. It measures an individual well-being, a life expectancy, equality and the state of surrounding environment. High qualitative indicators of this index can move Ukraine **from the 70th rating positions of 140 countries to the TOP-30.**
2. **The Health Index** (WHO's annual compilation focuses on the Health-related Sustainable Development Goals, the World Health Organization) is a holistic estimate of the health status of population (life expectancy, maternal mortality rates); the influence of risk factors (such factors as war, air condition, alcohol consumption, excess weight); the state and efficiency of health system (equality and accessibility of health services, their costs). Higher quality parameters in this sphere and improvement of population's health will let Ukraine take a higher position from its current **118th out of 188 countries to the TOP-60.**
3. **The Prosperity Index** (Legatum Prosperity Index, London Institute of Research, the Legatum Institute) This is a good dynamics that will allow Ukraine to move **from the 112th to the TOP-30.**

THE FOLLOWING INDICATORS MEASURE «CULTURE, EDUCATION, SCIENCE»

An economy's success is determined by both the presence of innovation potential and conditions for its capitalization. The second group of mega indicators assesses the potential of creating value-added on an innovative basis.

The development of culture has always stimulated a person's creativity and inventiveness from which new ideas emerge. The external environment determines how new ideas become innovative ideas.

1. **The Global Creativity Index** (Martin Prosperity Institute, University of Toronto): A rise of this rating will enable Ukraine to move **from the 45th rating positions to the TOP-20 countries.**
2. **The Human Development Index** (United Nations Development Program) measures the quality of human development in Ukraine. It is hoped that it will move **leap from the 84th position to the TOP-25 among the world countries.**
3. **The Global Innovation Index** (The School of Business INSEAD, BOIB and Cornell University): improving position **from the 50th to the Top-30 of the world countries.** **The Global Innovation Index** comprehensively and objectively assesses the effectiveness of the country's efforts towards the development of innovation. The level of patent activity is an important indicator that monitors the suitability of economic conditions to implement innovation potential.

THE FOLLOWING INDICATORS MEASURE «SECURITY, FREEDOM, EQUALITY»

1. **The index of Economic Freedom** (The Wall Street Journal and The Heritage Foundation): to make an ambitious leap **from the 166th position to the TOP- 40 of the world countries.**
2. **Ease of Doing Business Index** (World Bank): **from the 76th rating positions to the TOP- 25 countries of the world.**
3. **Global Peace Index** (Vision of Humanity, the Institute of Economics and Peace): **from the 154th position to the TOP-40.**

Nowadays, countries are searching for creative people with entrepreneurial talents, thus creating competition. With the intensification of globalization, it enables the formation of qualitatively different financial flows. This trend is reflected in **the Global Competitiveness Index** (World Economic Forum), seen in the presented above indices and indicators (Figure 2.12).



Figure 2.12. *The implementation indicators of a sustainable development model in Ukraine*
Source: *author's contribution.*

THE SHIFT OF UKRAINE FROM 81st POSITION TO THE TOP-30 COUNTRIES OF THE WORLD IN THE GLOBAL COMPETITIVENESS INDEX EMPHASIZES THE AMBITIOUSNESS OF THE LEAP

Summary of Part II

The sustainable development model of Ukraine is based on a human-centred approach. It was built in compliance with global megatrends and the goals of the millennium that are expected to affect the global economy in the coming decades. The key idea of the development strategy, which is based on the identification of Ukraine's existing economic strengths and capabilities, is to **create new strategic capacities by strengthening the existing potential**.

Among the existing potential opportunities, the development of high-quality human capital and high-tech production should be a priority. The target level of GDP per capita should be 20 thousand US dollars by 2030. The horizons are a quantitative benchmark and a tool for monitoring the results of development programs. The set of actions needed to achieve these horizons is formulated in the mechanisms described in Part III.

PART III.

Implementation
mechanisms
for sustainable
development

3.1. Explanation of the development of the mechanisms

The Doctrine of sustainable development «Ukraine 2030» is a scientifically-based system of principles, a set of economic and logical mechanisms for the sustainable development of Ukraine at the level of an individual and a society. These principles and mechanisms cover all spheres of economic activity: **production, distribution, exchange and consumption.**

The mechanisms combine both economic and political actions aimed at achieving the goals and objectives of sustainable development through institutional, regulatory and budgetary changes.

The purpose of this Doctrine is to determine the horizons for the sustainable development of Ukraine and the mechanisms for their achievement. The ultimate aim of which is to increase the level of welfare and the quality of life of its citizens in the long run. The main distinctive feature of this new socially-oriented model of economic development in Ukraine is human-centeredness- the recognition of the high value available in people. The effective realization of the nation's creative potential will become the main driving force of sustainable development.

The short-term tasks for the Ukrainian authorities are:

1. **Effective response and preventive measures** towards the following risks for Ukraine: the inefficiency of public administration; the lack of critical debt indicators; the inaccessibility of financial and investment resources through credit mechanisms; the critical scale and rate of the loss of human capital due to the ineffective and unjust distribution of the national wealth and the discrepancy between the public governance system and the expectations of the citizens.
2. **Adaptation to the demands of the global economy by a simultaneous stimulation of domestic market development.**

3. **Construction and development of high-value production.** All sectors of economy require significant investments for modernizing technology to increase both the productivity and efficiency of enterprises.
4. **Development of a favourable institutional environment with the effective cooperation of all stakeholders.**
5. **Overcoming or significantly reducing the following factors hindering the development of the national economy:**
 - **The losses due to the military operations in the East of Ukraine and the occupation of Crimea** amounted to 25% of GDP and continues to increase.
 - **The share of the national shadow economy** has levelled off at 50-52%. With the introduction of e-governance, the rule of law and an efficient and equitable distribution of national wealth, the expected value of the indicator by 2030 should not exceed the average figures of the EU countries.
 - **The scale of corruption** (resulting, in particular, from the shadow economy), has now reached 14% of GDP. Given the introduction of systemic reforms in 2017-2030, the projected value of the indicator is expected to be at the level of 4% of GDP.
 - **An inadequate and outdated pension system:** in the first half of 2016, the expenditures of the Pension Fund of Ukraine accounted for almost 13% of GDP (13.4% in 2015). The pension burden on the budget could be lowered to 4.8% of GDP by the application of consistent and radical reform. The plan would be a transition from the full solidarity pensions of level I (a legacy from Soviet times) to individual pension accounts (level II) and then to the full functioning of non-state pension funds (level III).
 - The servicing of **External debt** reached 71 billion US dollars on December 31, 2016. According to the conclusions of experts of the World Bank, it will

cost Ukraine 9 billion US dollars, or nearly 10% of its GDP, annually. It is critically important to review the current terms of the loan agreement in order to eliminate the devastating pressure on the national economy which is fixed for decades.

- **The energy intensity of Ukraine's GDP** exceeds the indicator of the world average and that of developed countries. According to the World Bank, in 2014, 0.127 kg of oil was equivalent to one dollar of the world GDP (according to the purchasing power parity of 2011). In Ukraine, this figure is 2.35 times higher. The energy intensity index of Ukraine's GDP by 2030 should decrease to 0.11.

THE REANIMATION OF THE NATIONAL ECONOMY BY 2020 DEPENDS ON THE SPEED AND EFFICIENCY WITH WHICH THE NEGATIVE INFLUENCE CAUSED BY THE CRITICAL FACTORS STATED ABOVE CAN BE REDUCED.

Long-term goals to be achieved by Ukraine before 2030:

1. Ensuring all forms of freedom and security exist at all levels with equal and free opportunities.
2. Creating a sustainable development of the national economy to provide a decent standard of living, health care and well-being for every citizen of Ukraine.
3. Ensuring the educational, scientific and cultural realization of an individual.

The realization of such goals for Ukraine is possible **by a transition to the sustainable development model** presented in Figure 3.1. The basis for the model is the need to develop the national economy, namely:

- *high-tech industries;*
- *fair distribution;*
- *balanced exchange and consumption;*

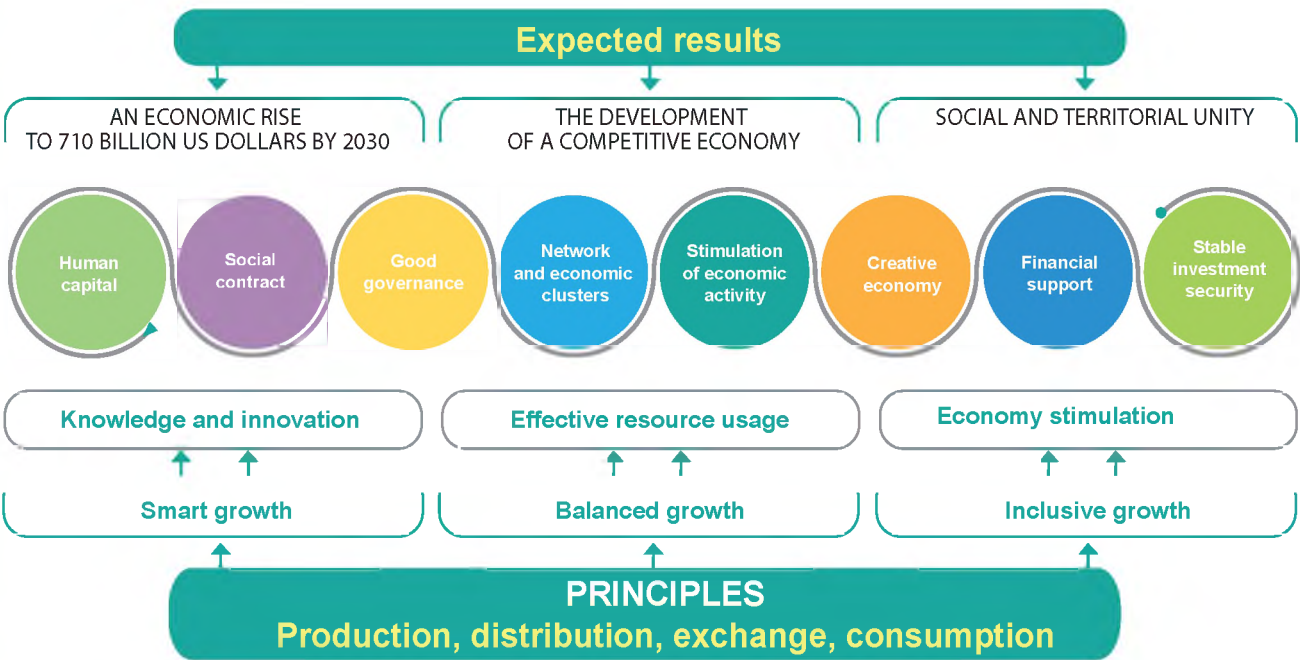


Figure 3.1. Schematization of a sustainable development model of Ukraine-2030
 Source: author's contribution

relying on the principles of:

- *reasonableness,*
- *sustainability,*
- *inclusive growth;*

by:

- *new knowledge and innovation;*
- *efficient use of resources;*
- *stimulating the economy;*

using mechanisms such as:

- *a social contract;*
- *good governance;*
- *networking the national economy;*
- *stimulating economic activity;*
- *the development of a creative economy;*
- *the effective implementation of human and social capital;*
- *the diversification of financial security;*
- *creating stable investment security.*

THE EXPECTED RESULT OF THIS SOCIAL AND TERRITORIAL UNITY IS THAT THE GDP WILL GROW TO 710-750 BILLION US DOLLARS BY 2030. A RISE OF 10% IN THE ANNUAL ECONOMY WILL ALLOW UKRAINE TO JOIN THE TOP-30 OF THE WORLD'S COMPETITIVE COUNTRIES

Logically, only the implementation of the positive scenarios for the development of Ukraine that has been proposed by both Ukrainian and international experts (the «Balanced development» scenarios by «Foresight 2016» and “Unlocking the Virtuous Circle” scenario by the World Economic Forum in Davos) can lead Ukraine to the expected results.

«BUILDING NEW STRATEGIC CAPACITIES USING EXISTING POTENTIAL» WILL HELP TO CREATE IDENTIFIED POSITIVE SCENARIOS. THE MECHANISMS PROPOSED IN SECTION 3.2 PROVIDE THE NECESSARY CONDITIONS

3.2. Components of a sustainable development policy

Mechanism #1: A Social contract (framework rules, social responsibility of the parties)

Positive scenarios for sustainable development require detailed answers to these questions:

What should the government change?

What should the government do to change itself?

What should a person do to change himself?

What should a business do to change itself?

The answers to these questions lie primarily in the context of a new *social contract*. They lie within framework rules which define the responsibility of the Ukrainian population stratum and aim to obtain a consensus **between the authorities, business and civil society** in the key areas of sustainable development for the next decade.

Serving the national interests of Ukraine should become the nucleus of a new social contract. On one side, it satisfies the basic needs of the citizens and ensures their high standard of living, on the other, it provides national security and increases the quality of human capital.

As stated before, the forecast of the World Economic Forum in Davos identifies three *development scenarios* for Ukraine where «Unlocking the Virtuous Circle» (Figure 3.2) is seen as the only positive one. The implementation of a new social contract is consequent upon the necessity to move forward with this scenario.

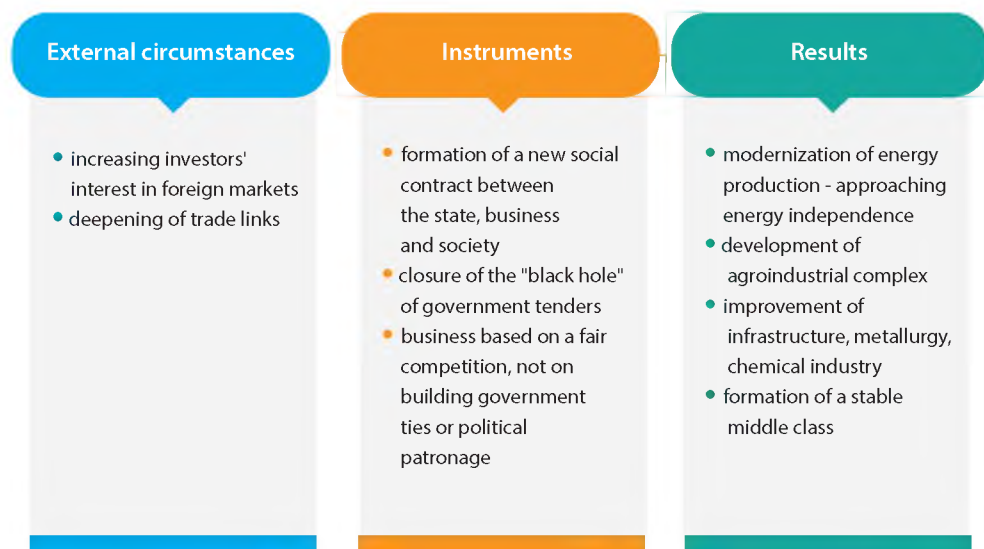


Figure 3.2. Strategic scenario for Ukraine «Unlocking the Virtuous Circle»
Source: World Economic Forum in Davos, 2016.

A social contract is a prerequisite for the positive development of events and determines its positioning as **Mechanism #1** to achieve the objectives of sustainable development.

Definition:

A social contract (using the principles of political law) is a voluntary consent of each individual to become a member of an organized society in order to protect his inalienable rights to life, safety, health, education and, at the same time, the equitable distribution of a national wealth and access to a nation's cultural heritage.

A social contract is a non-material expression of a national consensus between society, government and business. It is a general agreement to live in accordance with the established laws and principles that evolve at various stages of development. It reacts to the demands and expectations of society, which is reflected in the national legislation.

Content:

A new social contract is a response to the requirements of the changing nature of power and its functions under the conditions of globalization and integration.

Under a social contract, the **changes in the function of power** imply that **state institutions become a service** that ensures the inalienable rights of citizens to life, freedom, security, the rule of law, the equitable distribution of national wealth, an equal access to knowledge, science, medical care, cultural heritage and good governance. It ultimately provides a favourable living environment to human beings. **Each party has certain clear obligations.**

Obligations of the public authorities:

- the recognition of citizens' rights to exercise public control over the activities of authorities;
- ensuring the inalienable rights of citizens for decent life, freedom and security of an individual, the rule of law, the equitable distribution of national wealth, an equal access to education, science, medical care and cultural heritage;
- ensuring the right of citizens to good governance and favourable living environment;
- to satisfy business needs, provide its support to strategic sectors of the economy, the formation of a favourable business environment; giving priority to public procurement and support export activities for the national interest.

Citizen's obligations:

- honest performance of professional and civic duties;
- compliance with the code of civilized coexistence in the country;
- realization of conscious and active participation in the interests of the country;

- self-organization and self-governance of free individuals;
- participation in the country's political life;
- public control over the activities of the authorities and legislation maintenance.

Business obligations:

- mobilization of their own resources to ensure the country's national interests;
- ensuring the transparency of their business activities and audit reports;
- de-offshorization and return of capital from abroad;
- creation of high-tech production and new workplaces;
- implementation of corporate social responsibility;
- to make social rent payments.

PRINCIPLES OF A SOCIAL CONTRACT:

- there is a *community* of individual, collective, state and social interests based on the national idea;
- there is an *integration* of state and business efforts to ensure sustainable development through a public-private partnership;
- there is a *rule of law* (objectivity and integrity of justice, equality before the law);
- *there is transparency* – the political and state elites learn that they act solely for the benefit of society and in the interests of their country. They engage openly in their activities and in relation to their partners, state and society. They provide all necessary information to the state authorities, mass media and society;
- *universal participation and personal responsibility* of each citizen for the implementation of a social contract - all citizens directly or indirectly through legitimate institutions participate in political life and public administration;
- *patriotism and tolerance* - serving the nation and the country should become the norm of social behaviour for every citizen;

- *freedom of information*, its completeness and accessibility for all interested in it;
- *uniformity* of actions between state institutions and government in accordance with the needs, requests and expectations of citizens;
- *professionalism* as a measure of social competitiveness implies competent fulfillment of their obligations by all members of the society;
- *efficient and effective* maximization of the satisfaction of the needs of all participants and realizing these goals in a quantitative and qualitative dimension;
- *social justice* in ensuring equal rights and opportunities for improving the well-being of all citizens and a fair distribution of the national wealth;
- *strategic vision* – both politicians and the public should recognize the long-term goals and priorities for the development of people and society and they must clearly understand the measures necessary for their implementation.

THE ACTIONS INHERENT IN THE SOCIAL CONTRACT SHOULD BE INSERTED INTO THE EXISTING CONSTITUTION AND FORM THE ETHICAL PRINCIPLES OF ALL BRANCHES OF THE GOVERNMENT. THIS WILL BE REFLECTED IN THE BEHAVIOR OF CIVIL SOCIETY AND IN THE SOCIAL RESPONSIBILITY OF BUSINESS. THE ETHICAL PRINCIPLES OBSERVED BY THE GOVERNMENT LIE AT THE CORE OF THE CONCEPT OF GOOD GOVERNANCE. ITS IMPLEMENTATION IS DEFINED BY MECHANISM #2 OF THE SUSTAINABLE DEVELOPMENT OF UKRAINE.

Mechanism #2: Changing the paradigm of public administration for implementing the principle of good governance

Ukrainian society has twice demonstrated its desire to change a system in which the ruling political classes redistribute the national wealth. The Revolution of Dignity has clearly shown the aspiration of Ukrainian society that has an attitude towards politics that is non-personal but public, It is accountable to the public, transparent and open to participation by the public administration.

The modern concept of *Good Governance*, dominant in the developed world, is based on *involvement democracy*, where the success of governance is determined by the level and quality of communication between citizens and a state on interpersonal, social, regional and international scales. Under modern conditions, neither state nor civil society alone is capable of creating the effective mechanisms for solving this problem. Both state and citizenry are moving towards each other. The division of responsibilities between government and non-governmental institutions begins with a consultation between the interested parties.

The state and municipal management activities are needed for *Good Governance*, such as:

- interaction;
- complicity;
- cooperation.

Definition:

In accordance with the interpretation of the United Nations Development Program (UNDP),

GOOD GOVERNANCE IS «THE EXERCISE OF ECONOMIC, POLITICAL AND ADMINISTRATIVE AUTHORITY AT ALL LEVELS». THIS CONCEPT CONNECTS «MECHANISMS, INSTITUTES AND PROCESSES IN WHICH CITIZENS AND THEIR GROUPS EXPRESS THEIR INTERESTS, IMPLEMENT THEIR LEGAL RIGHTS, COMPLETE THEIR DUTIES AND BALANCE OUT THE DIFFERENCES».

The Doctrine of sustainable development «Ukraine 2030» translates the concept of Good Governance into a concept of *smart governance*.

Content:

The change in the management paradigm lies *in a new understanding of the essence and objectives of public administration as a service* where citizens are the users of services and government officials are managers. The communication between them is mainly conducted via the mechanisms of e-governance.

The change in the management paradigm also involves changing the communication process between a government and society. This process involves identifying goals, priorities, forms, methods and procedures that should be set to achieve these goals. Accordingly, such a management scheme contributes to a reduction in transport costs, which presently account for a major share of budget funds (up to 30%).

Politics should be distinct from the management processes of public administration. The policy-making centres (Ministries) as strategic bodies (functionally and organizationally) should become autonomous from the centres which implement the policies (agencies, services, centres, other departments).

These steps should result in:

- *minimization of bureaucracy;*
- *elimination of corporatism;*
- *prevention of corruption;*

- openness to society;
- enhancement of the country's competitiveness.

The achievement of the expected results will lead to a successful realization of optimistic scenarios for sustainable development.

At the same time, to secure the rights of citizens defined by the Universal Declaration of Human Rights, the state must develop a safeguard policy in such fields as health care, education and preservation of the nation's cultural heritage.

According to the concept of smart governance and the recommendations of the G20 Declaration in Gangzhou (September 2016), abstract schemes, models and constructions that offer universal algorithms for political and administrative reforms are considered obsolete. **The government of each country should independently form its own models of policies, observing the principles of good governance in their own practice.**

Good governance principles, as defined by the Council of Europe:

The principles of the European Strategy on Innovation and Good Governance are to avoid risks and to ensure the success in business from good governance in the realities of the twenty-first century. It is only possible when all interested parties are engaged in the adoption and implementation of decisions and policies.

The principle of «Fair Conduct of Elections, Representation and Participation»:

- Elections should be conducted openly and honestly following international standards and national legal acts, avoiding cheating.
- Citizens should participate actively in all aspects of social life, particularly at the local level.
- All men and women should be guaranteed equal decision-making rights. Such broad participation is based on the freedom of expression, assembly and association of citizens.

- All voters, including representatives of the most vulnerable groups, should be guaranteed equal decision-making rights, particularly, in the distribution of resources.
- The most important decisions are reached through consensus and accommodate the interests of the entire community.
- Decisions are reached on the behalf of the majority of citizens, while the rights and legitimate interests of the minority are taken into account.

The Principle of «Responsiveness»:

- Objectives, rules and procedures are adapted to meet the expectations and needs of all citizens.
- High standards of communal services are put in place. At the same time, citizens' complaints are considered and taken into account within a reasonable timeframe.

The Principle of «Efficiency and Effectiveness»:

- Results are consistent with the objectives set.
- Objectives are implemented by the best use of the available resources.
- Management systems contribute to the assessment of service quality in order to improve their efficiency.
- A regular audit is provided to improve the performance of authorities.

The Principle of «Openness and Transparency»:

- Decisions are adopted and enforced in accordance with the rules and regulations.
- There is public access to all information which is not classified for well-specified reasons as provided for by law.
- Information on decisions, implementation of policies and results is made available to the public in such a way as to enable it to effectively follow and contribute to the work of the local authority.

The Principle of «Rule of Law»:

- The local authorities abide by the law and judicial decisions (in accordance with current legislation).
- Rules and regulations are adopted in accordance with procedures provided for by law.

The Principle of «Ethical conduct»:

- The public good is placed before individual interests.
- There are effective measures to prevent and combat all forms of corruption.
- Conflicts of interest are declared in a timely manner and persons involved must abstain from taking part in relevant decisions.

The Principle of «Competence and Capacity»:

- The professional skills of those who deliver governance are continuously maintained and strengthened in order to improve their output and impact.
- Public officials are motivated to continuously improve their performance.
- Practical methods and procedures are created and used in order to transform skills into capacity and to produce better results.

The Principle of «Innovation and Openness to Change»:

- New and efficient solutions to problems are sought and the advantage is taken of modern methods of service provision.
- There is a readiness to pilot and experiment new programmes (technologies) and to learn from the experience of other states (governments).
- A climate favourable to change is created in the interest of achieving better results.

The Principle of «Sustainability and Long-term Orientation»:

- The needs of future generations are taken into account in current policies.
- The sustainability of the community is constantly taken into account. Decisions strive to internalise all costs and not to transfer problems and tensions, be they environmental, structural, financial, economic or social, to future generations.
- There is a broad and long-term perspective on the future of the local community along with a sense of what is needed for such development.
- There is an understanding of the historical, cultural and social complexities in which this perspective is grounded.

The Principle of «Sound Financial Management»:

- Charges do not exceed the cost of services provided and do not reduce demand excessively, particularly in the case of important public services.
- Prudence is observed in financial management, including in the contracting and use of loans, in the estimation of resources, revenues and reserves etc.
- Multi-annual and annual budget plans are prepared, with the consultation of the public.
- Risks are properly estimated and managed, including by the publication of consolidated accounts based on the principles of public-private partnerships.
- The local authority participates in arrangements for inter-municipal solidarity, fair sharing of burdens and benefits and the reduction of risks (equalisation systems, mutualisation of risks etc).

The Principle of «Human Rights, Cultural Diversity and Social Cohesion»:

- Within the local authority's sphere of influence, human rights are respected, protected and implemented, and discrimination on any grounds is combated.
- Cultural diversity is treated as an asset, and continuous efforts are made to ensure that all have a stake in the local community, identify with it and do not feel excluded.
- Social cohesion and the integration of the disadvantaged are promoted.
- Access to essential services is preserved, in particular for the most disadvantaged sections of the population.

The Principle of «Accountability»:

- All decision-makers, collective and individual, take responsibility for their decisions.
- Decisions are reported on, explained and can be sanctioned.
- There are effective remedies against maladministration and against actions of local authorities which infringe civil rights.

Governments are not only skilled, they are continuously raising their own professional level, are prepared for innovation and change and meet the requirements of the modern ethical standards inherent in democratic countries.

In the context of a new social contract and the reform of public administration in accordance with the concept of good governance, in the short-term, Ukraine will create a sustainable political and legal foundation. In the long-term of 2030, it will achieve a public consensus for sustainable development.

ANSWERS TO THE QUESTIONS:

«WHAT SHOULD THE GOVERNMENT CHANGE?»,

«WHAT SHOULD THE GOVERNMENT DO TO CHANGE ITSELF?»,

«WHAT SHOULD A PERSON DO TO CHANGE HIMSELF?»,

«WHAT SHOULD A BUSINESS DO TO CHANGE ITSELF?»

The new management paradigm involves changing the main principles of interaction between government, society and business. It puts forward the requirements for the transformations of all enrolled. In order to ensure a decent standard of living, health and well-being, it is essential to pay attention to the efficiency, conscientiousness and consistency of the implementation of decisions.

Figure 3.3 illustrates the new principles of interaction between government, business and society in achieving the goals of sustainable development within the **«Life, health, wealth» component**.

The successful implementation of the horizons for sustainable development *within the «Life, health, wealth» component* is assessed by the indexes systematized in Section 2.5 Part II. These indexes are *Key Performance Indicators (KPI)* and serve as an assessment system to determine the achievement of strategic goals.

The achievement of high levels of innovation in the national economy starts with an educated and cultural person. Someone who is inquisitive and motivated to make creative decisions. Managing the community of such people is possible only by partnership and consensus. This requires the government and business to put into practice new principles of management. New principles of interaction between government, business and society in achieving the goals of sustainable development within the **«Culture, Education, Science» component** are shown in Figure 3.4.

The successful implementation of sustainable development horizons **within the «Culture, Education, Science» component** is assessed by the progress of the country in the relevant ranks according to indexes (KPI) systematized in Section 2.5 Part II.

Ensuring freedom and security in all manifestations and levels along with equal and free opportunities requires the maintenance of trust and responsibility. Each participant must be honest and proactive. Predictability, consistency and continuousness of actions generate trust in society. Only under trust and freedom the creative potential of the individual can be fully revealed, activating the development of the economy.

Figure 3.5. demonstrates the new principles of the interaction between government, business and society in achieving the goals of sustainable development **within the «Freedom, equality, security» component.**

The successful implementation of the sustainable development horizons **within the «Freedom, equality, security» component** is assessed by the progress of the country in the relevant ranks, see Section 2.5 Part II.

SIMULTANEOUS CHANGES AT ALL LEVELS, IN THE NATURE AND CONTEXT OF GOVERNMENT, BUSINESSES AND CIVIL SOCIETY ARE NEEDED TO GROW THE NATIONAL POTENTIAL AND DEVELOP THE NECESSARY STRATEGIC CAPACITY.

Any delay will only deepen the distortion of the structure and the imbalance of the national economy adding to the destabilization of society.



Figure 3.3. General principles of interaction between government, business and society in achieving the goals of sustainable development within the «Life, health, wealth» component.
Source: author's contribution.

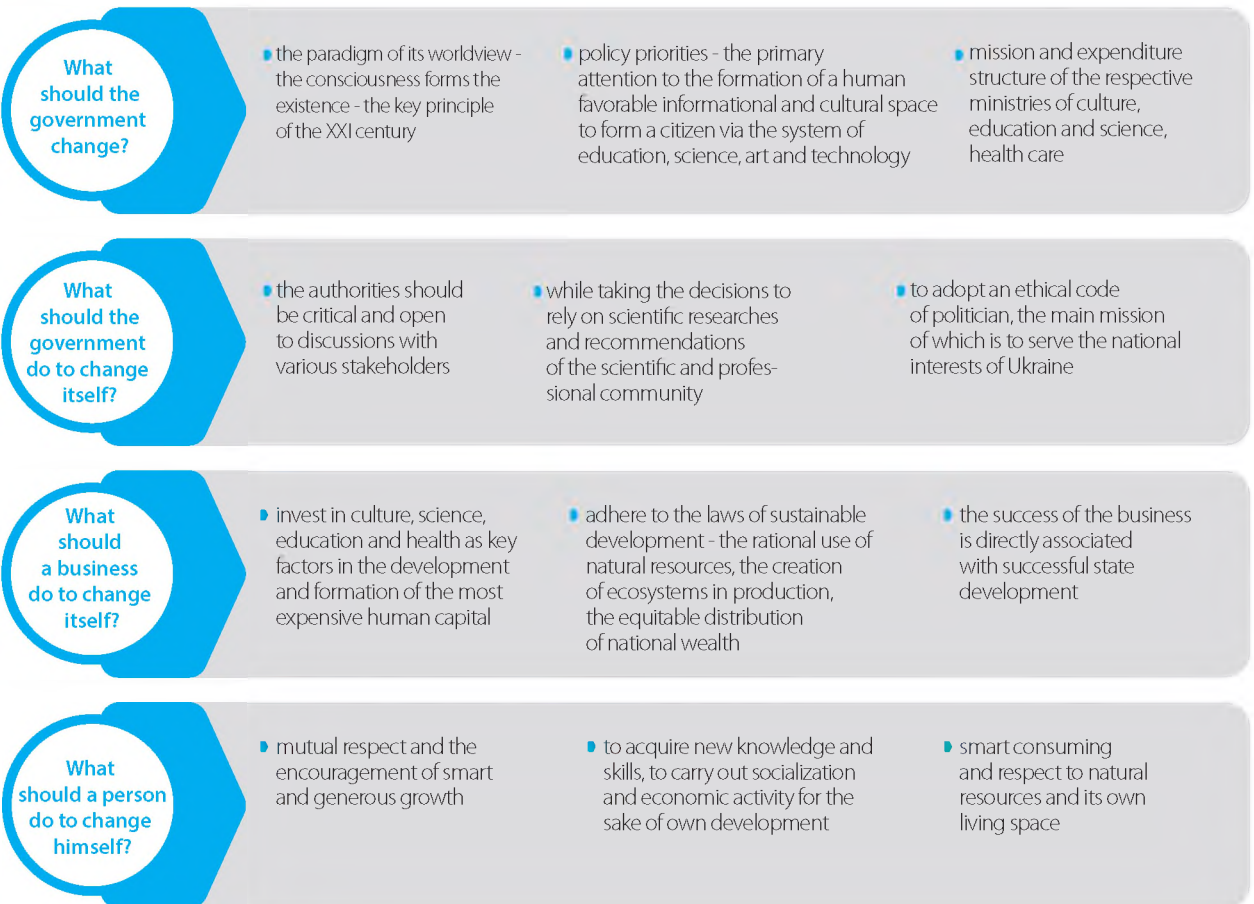


Figure 3.4. General principles of interaction between government, business and society in achieving the goals of sustainable development within the «Culture, Education, Science» component.

Source: author's contribution.



Figure 3.5. General principles of interaction between government, business and society in achieving the goals of sustainable development within the «Freedom, equality, security» component.

Source: author's contribution.

Mechanism #3: Structural modernization of national economy based on the network economy

The fundamental optimization of world production by transferring certain parts to countries with lower costs leads to the formation of global production and trade networks.

World Trade Organization experts claimed a positive relationship between participation in global value-added chains and economic growth rates:

- 30 developing countries most integrated into the global chains had a 3.3% average economic growth rate over the past two decades;
- 30 countries that were less integrated into these processes grew annually by an average of 0.7%.

Such differences will continue to deepen. Gradual trade liberalization removes administrative and bureaucratic obstacles to the movement of goods. It facilitates the participation in global services, commodity and component production networks.

THE BENEFICIAL CAPABILITY OF A COUNTRY TO PARTICIPATE IN GLOBAL PRODUCTION AND TRADE NETWORKS DEPENDS ON ITS INVOLVEMENT IN GLOBAL VALUE ADDED CHAINS AND NETWORKS – NETWORKING

Content:

- **Structural shifts** are needed to simplify administrative processes and create an appropriate modern infrastructure and institutions that encourage participation in global networks. Two such shifts are the enhancing quality of education and human resources and the removal of trans-border obstacles for the transfer of knowledge, technology, and goods.
- **Regulatory and legal changes** to ensure the system effectively protects intellectual property rights and stimulates the commercialization of its objects.

Significant transformations in the modern life cycle of goods or services, especially high-tech, have led **the transition to a model of «open innovation»**. Complex global value-added chains are formed via the creation of scientific and technical knowledge, the transformation of raw materials in the final product and the provision of services, and after-sale services. There is the acceleration in the integration of the world economy using the following network principle:

- Economic freedom.
- Ease of doing business.
- Effective legal system.
- E-Governance.
- Innovative capacity.
- Infrastructure security.
- Digital accessibility.
- Qualitative education for all groups of the population.
- Personal security of ICT.
- The widest use of ICT in business.

THE KEY INTEGRATOR OF GLOBAL NETWORKS IS APPLYING INFORMATION AND COMMUNICATION TECHNOLOGIES TO ALL PROCESSES: FROM SCIENTIFIC RESEARCH AND DEVELOPMENTS, LOGISTICS AND MARKETING TO MANAGEMENT

The following factors are important for a business to become involved in global networks:

- 1) the quality of the business environment;
- 2) the level of political and economic risks;
- 3) legal and tax regulators;
- 4) technology development;
- 5) the cost and speed of logistics operations;
- 6) the quality of digital data transmission.

THE CLUSTER APPROACH IS THE KEY CONCEPT FOR THE GROWTH OF COMPETITIVENESS.

Definition:

The cluster, in the modern sense, is an organized, locally integrated network of legally independent entities in a certain area of activity. They are interested in cooperation and the use of their results within a clearly defined strategy of actions and programmes.

The escalation of the struggle for global leadership to ensure the competitive status of individual regions and countries determines the leading clusters. **World clusters** form consolidated, highly competitive networks that meet the global demand for goods and services. This is based on the use of up-to-date new technologies, new opportunities for mobility of human and social capital.

The benefits of clusters in a sustainable development model:

- 1) They are highly motivational, resourceful and functional;
- 2) Their operational orientation is to form and satisfy global market demand;
- 3) They respond flexibly to market conditions by means of breakthrough technologies in selected segments;
- 4) they have strategic importance and use effective programs and projects;
- 5) They are open to effective mechanisms of organizational and structural self-development due to their creative management;
- 6) They have a territorial concentration of subjects around one chosen specialization.

Expected results:

- Growth of domestic market and domestic consumption;
- Growth of exports;
- The enhancement of the competitiveness of enterprises and its products.

At present, the EU considers clusters as the main source of competitive advantage in the global economy.

Cluster policy tools:

- an extensive network of funds;
- cross-border cooperation projects;
- cluster programs and initiatives at the national and regional levels;
- targeted grants, privileges, preferences;
- expert centres;
- cluster management excellence initiatives;
- platforms of state support and cooperation.

Strategic priorities of cluster policy for Ukraine:

- the formation of national clusters in high-tech economic activities, in particular:
 - ICT,
 - energy and environment sector,
 - biotechnology,
 - additive production,
 - the agrarian sector,
 - machine and aircraft engineering,
 - higher education and science;
- legislative, organizational and informational support at the following levels:
 - international - involvement in European programs, international organizations and foundations;
 - national - cluster programs, stimulation of research and development (R & D), priority investment projects in clusters;
 - regional - the interaction between state authorities and local self-government, business and educational institutions on the basis of public-private partnership and open innovation principles;
- the development of world-class clusters to diversify international partnerships and cooperation; international cooperation strengthening (Interreg 4; Cosme; Horizon 2020).



Figure 3.6. Existing and promising clusters of the national economy
Source: author's compilation.

ACCORDING TO THE CURRENT STATE OF THE NATIONAL ECONOMY, DEFINED PRIORITIES, HORIZONS AND PERSPECTIVES IN THE INTERNATIONAL LABOUR MARKET, SOME POSSIBLE CLUSTERS FOR UKRAINE ARE SHOWN IN FIGURE 3.6.

It can be seen that the competitiveness of the country is less determined by a closed-loop integrated industry.

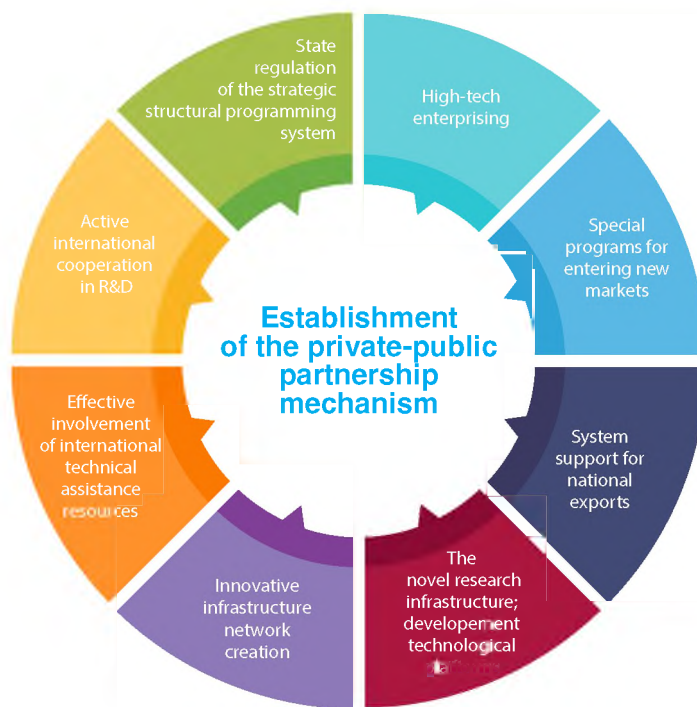


Figure 3.7. *The system of networking policy formation and implementation in Ukraine*
Source: *author's compilation.*

IN THE MODERN DEVELOPED WORLD, ACHIEVING OPTIMUM POSITIONS IN THE GLOBAL VALUE-ADDED CHAIN DETERMINES COMPETITIVENESS

Competitiveness is determined at three levels:

- **the first level** - the ability to join the network;
- **the second level** - the ability to keep in the network;
- **the third level** - the ability to move upwards in the value-added chain.

The participation of the country in global production and trade networks is the only way to achieve this strategic goal which is to answer the following question: «What amount of added value can the country receive by rising in the network indicators:

- creation of new jobs,
- the increase in the citizens' income,
- the dissemination of new technologies;
- sustainable development growth?»

To form and implement a networking policy in Ukraine, a system of follow-up measures is compulsory (see Figure 3.7).

Thus, existing capacities can be updated by forming new, globally perspective clusters, particularly in ICTs, education and the creative industry. The available human capital can be used as the main competitive advantage of Ukraine to implement this networking policy. At the same time, the quality of human capital in the transition to a model of sustainable development is a decisive factor in modernizing the national economy on a network basis.

Mechanism #4: Stimulation of economic activity and the development of an internal market

The degree of interconnection between the democratization of society and economic progress is manifested through the influence of the country's political environment on its national economy. The political factor is decisive in the success of reforms. Its dependence on the political orientation of the population convincingly proves that reforms should

be based on the consensus of the economic interests of all members of society. Reforms should be initiated from the inside, rather than being planted from the top.

Institutional and regulatory changes

1. De-monopolization and formation of a competitive environment

The separation of big business and power (de-oligarchy):

- a real distinction between state and business activities must be provided by law;
- individuals whose net assets exceed 1 million USD should be obliged to pay a social rent at the rate of 10% declaring their assets. There should be no amnesty for past financial abuse or corruption;
- social rent for business over-profits;
- no organizational, financial, administrative barriers for small and medium-sized business by 2020;
- comprehensive state support for small and medium-sized business to access to international markets;
- operational lending to small and medium-sized business on affordable and beneficial terms;
- information, personnel, consulting, legal and financial state support of small and medium-sized business, big business and international organizations;
- the abolition of unnecessary, outdated and duplicate regulations; elimination of inefficient or non-state-owned functions or transfer it to the private sector;
- the development of tools for guaranteeing loans for small and medium-sized enterprises with reliable business plans;
- the development of business ventures to stimulate and encourage private sector as a source of financing for small and medium-sized innovation business, in particular, «STARTUP - young innovative enterprising».

2. Anti-shadowing of economic activity

Anticorruption actions:

- an open e-government model;
- the practice of public tender procedures for state purchases along with clear qualification requirements for companies - tenderers;
- reforms in the prosecutor's office, the judiciary and police system based on the principle that every violation will be detected and punished;
- joining the EU Common and Union Transit System by means of incorporating in the European Computerized Transit System (NCTS), «single-window system» full-launch;
- create a system to return funds and assets from abroad that were derived from criminal legalization of funds (laundering);
- an automatic information exchange system with the customs services of foreign countries, the integrated border management to all checkpoints.

Tax tools:

- **tax relief on business**, mostly small and medium-sized enterprises, - tax privileges and the essential reduction in the number of mandatory payments;
- **an optimized mechanism for refunding VAT** by creating an electronic VAT administration;
- **the reduction of the single social contribution (SSC)** from 22% to 15% by amending the Law of Ukraine on the state budget in order to reduce the tax on wages;
- **criminal liability** for any shadow tax schemes and hiring employees without employment contracts;
- **the legalization of business structures and incomes** by reducing tax rates and a one-time tax amnesty in the form of a so-called zero declaration. This should be followed by the use of indirect methods for controlling individual incomes and expenditures. This approach should be disseminated to all Ukrainian citizens after successfully testing it on civil servants, police and judicial personnel;
- **a modified tax model** for offshore capital with full taxation exemption for reinvested profits for small payers;

- **stimulating the transition of business entities** from the simplified taxation system to the corporate one.

3. Structural changes

The above steps are needed to install the structural changes in the national economy (Part II of the Doctrine). Therefore, the selective support for the prior economic activities (determined in the BCG matrix) is a component of this economic policy (Figure 2.9). The basis of a modern national economy is a group of economic activities «**up-to-date stars / leaders**», consisting of **agriculture** and **food industry, as well as metallurgy**. It is vital for the state to provide conditions for its development, namely:

- macroeconomic stability,
- a transparent and easy tax system,
- simplified procedures for the international agreements,
- the prevention of unfair competition.

In industries such as, for example, metallurgy, the state should **promote technological innovation in production** to enhance energy efficiency and competitiveness. **Mining, heat and power, automobile production**, as well as light industry, form a «**problem areas**» group. That is those industries that do not generate high added value but at the same time have a significant potential for domestic demand. In mining, for example, the following are inherent: the low added value of production; significant amounts of subsidization and unfair profits due to the redistribution of natural rent; low growth rates and critical indicators of fixed assets depreciation. This, potentially, has a threat of high accident rates and even man-made disasters. Therefore, these industries should be strengthened using innovation to develop the internal market.

The share of these economic activities is decreasing over time. Therefore, the state should just provide «**social investments**». **This way, the**

state ensures the painless closure of enterprises and retraining of workers for employment in more profitable economic activities.

In general, **priority steps for «up-to-date leaders» and «problem areas»** economic activities (which are characterized by low levels of value added (metallurgy, chemical industry, construction materials production)) are:

- cost optimization,
- adopting plans to reduce energy consumption and resource intensiveness,
- the implementation of European energy and environmental standards with appropriate funding,
- investment programs to update equipment and business processes,
- training of staff.

These can lead to the expansion of product markets and the emergence of new markets.

The priority for the state support should be a group of **«strategic leaders»**. These are the economic activities that form **unique innovation sectors**. They are distinguished by high value-added generation and highly skilled professionals which are attracting, significant potential to reach markets. These economic activities are capable of providing an ambitious innovation leap for Ukraine bringing it closer to the high-tech economies of the world. At the same time, these economic activities **require significant high-risk investments**.

The economic role of the state to develop the **«strategic leaders»** group is a crucial one. It can be implemented by means of **an effective combination of public financing instruments** (institutional and project financing) and state incentives (tax incentives, preferential lending, loan guarantees through using intermediaries of existing and newly created institutions).

An important subject of state regulation is the group of **«potential leaders»** formed by the **pharmacy, IT, electronic and optical production, as well as information and science-intensive services (education, public administration, defence, healthcare, research and development (R&D), telecommunications)**. These are economic activities that generate high levels of value added but currently have a low share in the state gross export. However, they have the potential to penetrate international markets and the potential to substitute imports in the domestic market. In the future, each industry and sub-sector in the group of **«potential leaders»** can replenish the group of **«strategic leaders»** and move **«problem areas»** (unpromising economic activities) to a fourth group. In particular, an economic activity such as education has an extremely high potential for innovation in the segment «adult education». Ukraine has one of the highest levels of population with high education, as well as a network of universities of different forms of ownership.

The innovative development of these economic activities is achievable because of the high domestic demand, the availability of raw materials and relatively cheap high-skilled labour.

The priority task in this mechanism is to develop groups of «strategic leaders» and «potential leaders» (the science-intensive economic activities, i.e. defence, aviation, space and pharmaceutical industries, energy and transport engineering, machinery and medical equipment manufacturing), and to encourage their entry into international production networks by:

- the intensification of technological transfer – the search for partners and entry into international value - added chains;
- the creation of new innovative industries and related services – the development and optimization of the R&D base, cooperation with global leaders-countries, the formation of innovative clusters.

A CHANGE IN THE STRUCTURE OF THE NATIONAL ECONOMY CAN BE ACHIEVED BY STRENGTHENING THE CAPACITY OF GROUPS OF «STRATEGIC LEADERS» AND «POTENTIAL LEADERS» ESPECIALLY IN HIGH- AND MIDDLE-TECH PRODUCTION

In addition, **the development of a high-quality infrastructure** is one of the key tasks of the state to ensure the effective production of goods and services. One of the promising sectors in Ukraine is the transport sector.

The growth of the transport infrastructure, engineering and services can provide an integrated approach to the progress of Ukraine as a transit state.

To develop transport services, the state should provide the necessary network of national and local rails and roads, airports and ports, relative products of transport machinery. The way forward is the construction of internal automobile and railway lines and joining the EU transport network.

A system of activities based on «STARTUP - young innovative enterprising» is necessary within the framework of institutional conditions for Ukraine's ambitious innovation leap, namely:

- five years **tax holidays** for high-tech small businesses - «strategic leaders» young innovative enterprises, in particular: additive production (3D printers), robotics, artificial intelligence, nanotechnology, biotechnology, Internet market, virtual reality; renewable energy sources; automated control systems; financial market technology; e-government, cryptocurrencies; mobile apps, software; on-line education; cyber defence, e-payments, big data, cloud services, internet bots; construction of planes, satellites, drones; smart houses and buildings, etc .
- **a joint venture partners network**, state fund for investment only in high-tech companies and young innovative enterprises;

- **interest-free lending** for high-tech start-ups and its transformation into young innovative enterprises;
- **a state accelerator** to provide state managing, informative and financial support for the selection of innovative ideas and its transformation into start-ups and youth innovative enterprises;
- **no fees for the transfer of funds to start-ups** obtained on crowdfunding platforms from foreign investors; legislation and simplification of the international payment systems such as PayPal;
- **a development program of scientific-production clusters** based on research universities in the cooperation with venture capital investors and big business;
- **a special type of long-term visa** and simplified visa procedures for foreign venture capital investors and start-ups of national and private incubation and accelerators programs, etc.

THE IMPLEMENTATION OF AN «OPEN INNOVATIONS» MODEL IS THE KEYSTONE OF THE SUSTAINABLE DEVELOPMENT PARADIGM IN UKRAINE.

THE DOCTRINE PROPOSES THE FOLLOWING MODEL FOR DEVELOPMENT OF THE NATIONAL INNOVATIVE INFRASTRUCTURE:

It is anticipated that a national network of an innovative infrastructure will form a network of **INNLABs (consortia of cooperation between researchers, inventors and business)**, start-up schools, technology transfer centres of research universities, non-bank financial and credit funds, insurance companies, which specialize in insurance of venture projects, venture investment institutes, intellectual property commercialization centres, business incubators, etc.

INNLABs and start-up schools provide business plans for developing innovation projects. Innovative projects can be funded in a non-bank financial or venture capital funds. **A special tax regime** is envisaged to encourage the creation of INNLABs. In order to attract household savings

for informal venture investment, it is planned to create training courses in investment and financial literacy.

Completed innovative proposals will receive financial support from non-bank financial and credit funds (or venture financial institutions). Business incubators will be created to commercialise their intellectual property. Incubators stimulate and support the approach of innovative products to the market.

THE ACCELERATION OF REFORM IS AN IMPORTANT CONDITION FOR THE SUCCESSFUL MODERNIZATION OF THE NATIONAL ECONOMY. THE COUNTRY URGENTLY NEEDS TO MOVE FROM A SHORT-TERM CYCLE MODEL TO A LONG-TERM SUSTAINABLE DEVELOPMENT PARADIGM (FROM SHORT TERM TO LONG-TERM ECONOMIC EQUILIBRIUM). IF SO, THE FOLLOWING CLASSIC BUILT-IN MECHANISMS MUST BE USED:

- **amplify the investment activity** of business entities; growth of capital (i.e., capital investments in new plants, transport infrastructure and communications, etc.);
- **increase the labour force**, create an economically active population (smart migration policy, human resources reproduction policy, improvement of health care system);
- **increase labour productivity** due to modernization, energy saving and innovative technologies, switching to new types of energy;
- **technological innovations** to increase the productivity of physical and human capital;
- **improvements in the quality of education**, training, production culture and ethics;
- **transition to new types of raw materials and energy.**

Two ways to achieve a new structure of the national economy:

- the modernization of traditional sectors and infrastructure;
- the active shift to high-tech and knowledge-based economic activities.

The transition from a borrowed technologies model to an innovation model can be accelerated on the basis of a cluster approach along with:

- the integration of related activities,
- continuous training for small and medium-sized enterprises in the networks of knowledge and innovation,
- the partnership between the state and business.

It is necessary to reduce the impact of the state on business operations. It should be focused on a horizontal policy that creates the framework for business development such as:

- a transparent investment and competitive environment,
- the development of innovation infrastructure,
- equal access, i.e. to resources, markets and finance for SMEs.

THE INDEPENDENT DEVELOPMENT OF ACTIVE SMALL AND MEDIUM ENTERPRISES (SMEs) IS A CRUCIAL PRECONDITION FOR THE ACCELERATED ECONOMIC DEVELOPMENT OF UKRAINE. THIS WILL ALSO IMPROVE SOCIAL STABILITY.

The main competitive advantages of SMEs are high mobility and flexibility to changes in market rules, operational perception and generation of innovative ideas, the ability of new jobs. SMEs are also the basis for the formation of a powerful middle class in Ukraine. Thus, it is a source of social stability and equilibrium.

Mechanism # 5: The development of a Creative Economy

The new model of development includes economic, cultural, technological and social aspects. The recognition of creativity, knowledge and access to information as powerful drivers of economic growth and catalysts of globalization are the core of this model. In this context, the term

«**creativity**» means the formulation of new ideas and the application of these ideas in the production of original works of art, the original cultural product, innovative production activities, scientific findings, technical inventions and technological innovations.

ECONOMIC CREATIVITY IS MEASURED BY THE EFFECT ON BUSINESS, THE GENERATION AND IMPROVEMENT OF INNOVATIONS, THE INCREASE OF PRODUCTIVITY AND ECONOMIC GROWTH.

Creativity is inherent in all societies and all countries - rich and poor, large and small, developed or developing. **The term «creativity»** is associated with originality, imagination and inspiration. Creativity, knowledge and access to information are perceived as powerful engines for the development of countries, economic activities, and the development of the population.

A key characteristic of an individual is his/her ability to be creative and express his/her ideas. This skill, combined with knowledge and the appropriate means of commercialization, forms the essence of intellectual capital. Intellectual capital plus human capital forms social capital. The level of social capital determines the level of development of the society. In addition, each society forms its own cultural capital, which revolves around identity and national values. Human civilization has always been aware of these interconnections. The twenty-first century is characterized by the recognition that the combination of creativity, culture and economy is the basis for the formation of a new concept – «The Creative economy».

Definition:

The notion of a «creative economy» is gradually shaping and evolving in the modern vision of development. Currently, there is no clearly defined term for «creative economy». UNCTAD promotes that:

- **The creative economy is an emerging concept** that is constantly changing and based on creative assets that can generate an effect on economic growth.

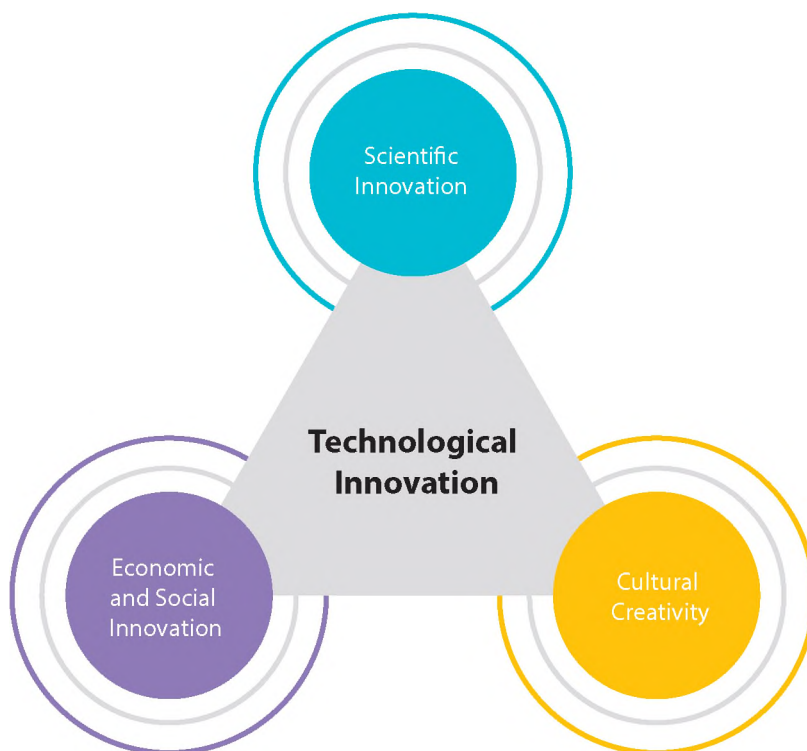


Figure 3.8. *The interrelation of creativity and innovation*

Source: <http://www.keanet.eu/publications-2/>

- The creative economy can be a source of income, job creation and the ability to generate export profits, promoting social inclusion, cultural diversity and human development.
- The creative economy involves economic, cultural and social factors that are related to the challenges of technology, intellectual property and tourism.
- The creative economy is a set of measures aimed at knowledge, has a dimension of development and is related to the economy as a whole and at its various levels.
- The creative economy is a track of development that requires multi-sectoral strategies by the authorities and inter-agency activities.
- Creative industries are the heart of a creative economy.

The future agenda of sustainable development is based on the interdisciplinary interface of economics, culture and technology. The domination of services and their creative content is a priority for developing countries. This requires the adoption of effective multi-sectoral mechanisms and an inter-departmental policy.

Currently, the creative industries, that are the heart of the creative economy, are one of the sectors of the global economy with the most dynamic development. According to the UN, the share of creative industries accounts for 3.4% of world GDP, which is almost 1.6 trillion USD. This twice exceeds the annual profits for international tourism. Annual growth rates range from 4.3% to 17.6% in different countries. It doubles the growth rate of services and four times exceeds the growth rate of industrial production. Simultaneously, the share of employed in the creative economy reached 25% of the young world population.

The volume of world exports of creative goods and services reached 8.7% average annual growth. This dynamic of the global creative economy, along with the implementation of a multi-sectoral policy to stimulate the development of creative industries, has enabled China to become the first producer and exporter of high value-added creative economy products. The revenues from the EU creative industry, employing 5.6 million people, have a growth rate 12.3% higher than the growth rate of general economic revenues. The world dynamics in the share of the creative economy testifies that the number of workers in this sector in 2020 will achieve an intermediate position between the service sector and industrial production, with a very small share for the agrarian sector. It is expected that there will be a flow of the labour force from the industrial to the creative industries sector (Figure 3.10).

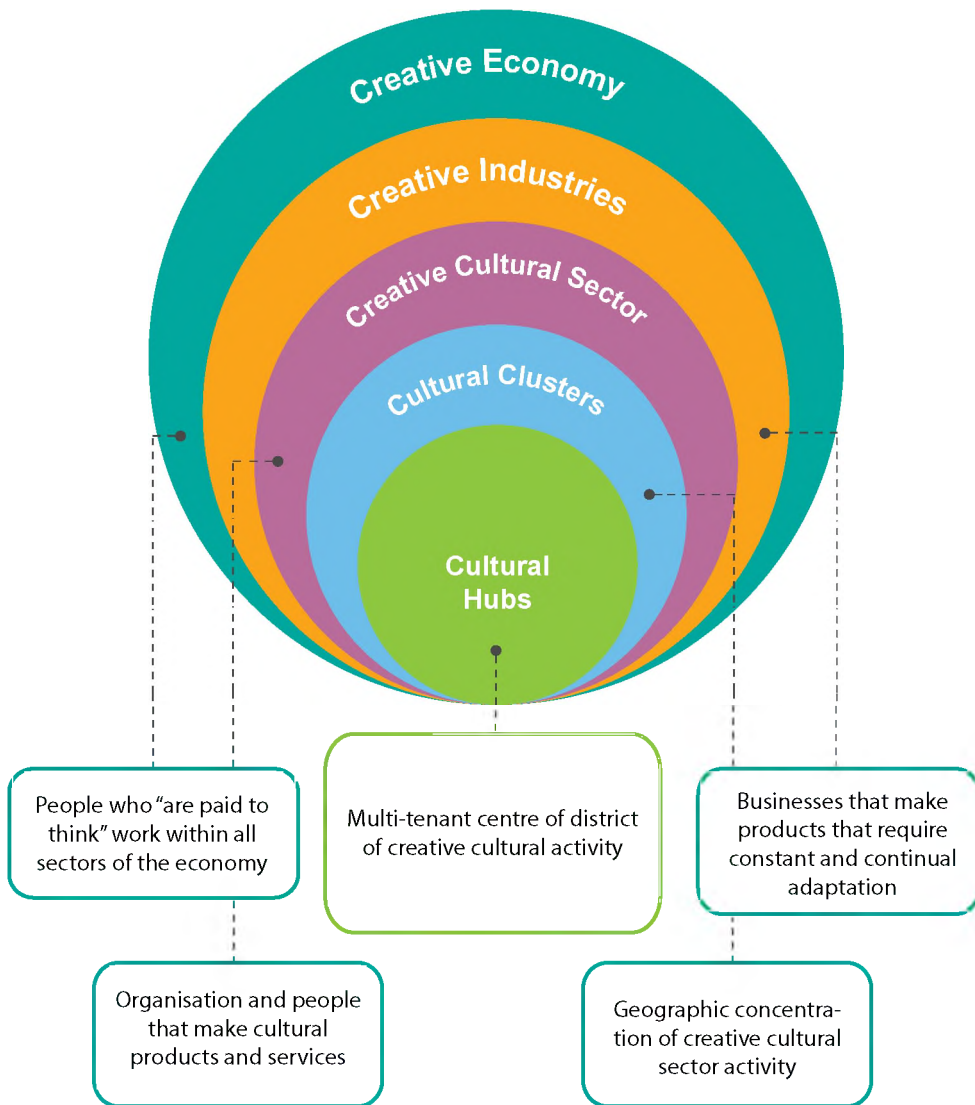
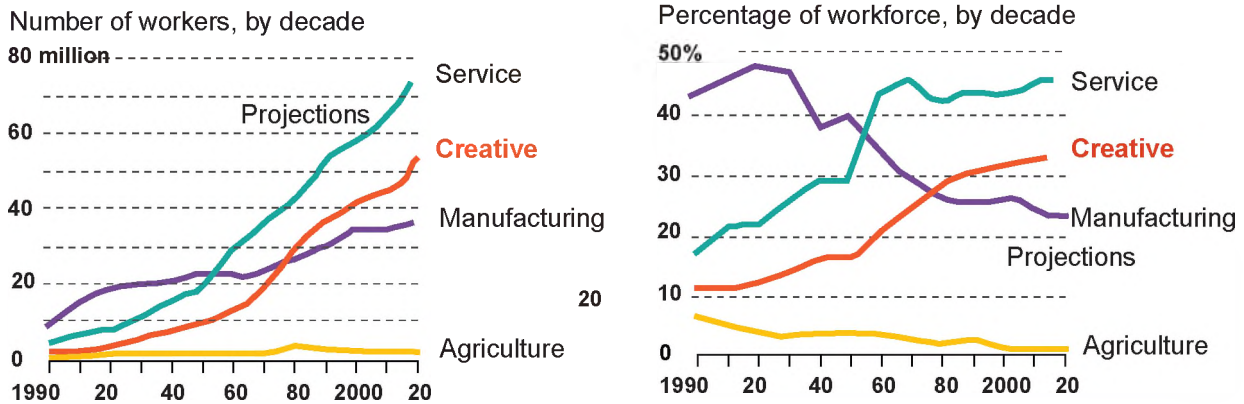


Figure 3.9. *Concept of the creative economy and its components*

Source: *UNDP. Report on the creative economy. Expansion of local development opportunities.*

It is A Creative Economy



Percentage of workforce vs. percentage of wages paid in 2006

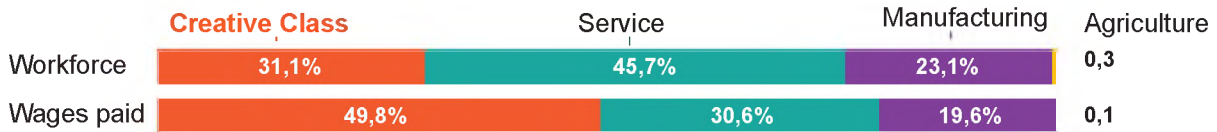


Figure 3.10. Dynamics of the creative economy in the world, 1990–2020
 Source: Richard Florida, 2008, <http://www.whosyourcity.com>.

In Ukraine, the prevailing values are a redistribution of products and the psychology of survival (short-term goals and tools of the economy). This can only lead to extinction. Only a re-orientation to creativity and cooperation can fundamentally change the trajectory of the national economy from poverty to stabilization and prosperity in the long run. Today, according to the Global Creativity Index, Ukraine is ranked 45 from 139 which is a rather high. The assessment was carried out using three parameters: technology, talent and tolerance. The top five countries included Australia, the United States, New Zealand, Canada, and Denmark. Ukraine had a high position in terms of technology and talent. However, the state significantly lost on tolerance (105th ranked position).

In addition, the difference between the value of the talent index and the technology index (respectively, 24th and 43th ranked positions) provides the evidence that the level of R & D in terms of technical inventions and their patenting in Ukraine is significantly lower than the number of researchers and inventors who potentially are able to create such intellectual property objects.

A PRIORITY FOR UKRAINE IS TO ESTABLISH CONDITIONS WHERE CREATIVITY WILL FLOURISH IN ORDER TO STRENGTHEN ITS POSITION IN GLOBAL CREATIVITY RATINGS

This requires a revision of the mission of the Ministry of Culture. The direct management of the «official» culture should be eliminated. There should be a shift to the policy of strategic development of culture and the creation of new models of horizontal partnership with the ministries of regional development and economy.

A creative approach based on the capitalization of human talent and its intellectual potential, along with the accelerated development of a service

economy based on ICTs, can speed up the creation of strategic capacities of the national economy and catalyse its **modernization**. **A new high-tech economy will then emerge**. The creation of value-added chains by means of modern clusters is capable of setting qualitative changes in the structure of the national economy.

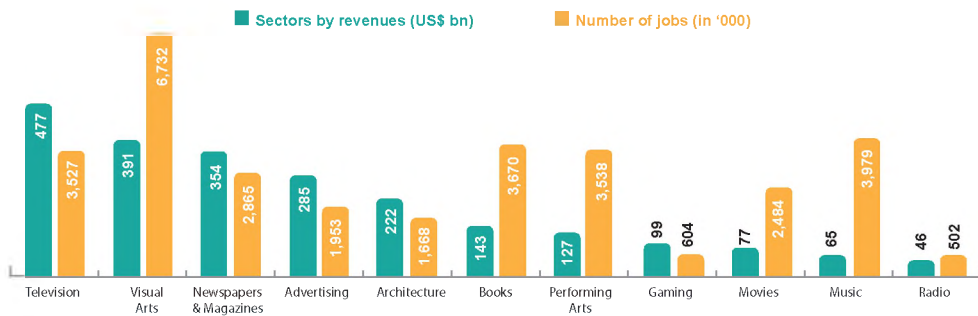


Figure 3.11. *Economic parameters of the creative economy sectors in the world: revenues (billion US dollars) and the number of jobs (thousand people)*

Source: <http://www.worldcreative.org>

A cluster of creative industries is emerging in Ukraine. These are industries derived from individual creativity, skills and talents, and have the potential to create well-being and jobs.

The EU distinguishes the following activities as creative industries: (according to the statistical classification adopted by the European Parliament)

- publishing activities;
- production of cinema, video and television programs, phonograms, musical publishing activities;
- development and broadcasting of events;
- computer programming, consulting, and related activities;
- information services;
- architectural and engineering activities;

- technical testing and analysis;
- research and development (R&D);
- advertising and marketing research;
- art and entertainment activities;
- sports events, recreation and entertainment.

These sectors of economic activity are defined as sectors of scientifically-intensive services with high value-added (Figure 3.11).

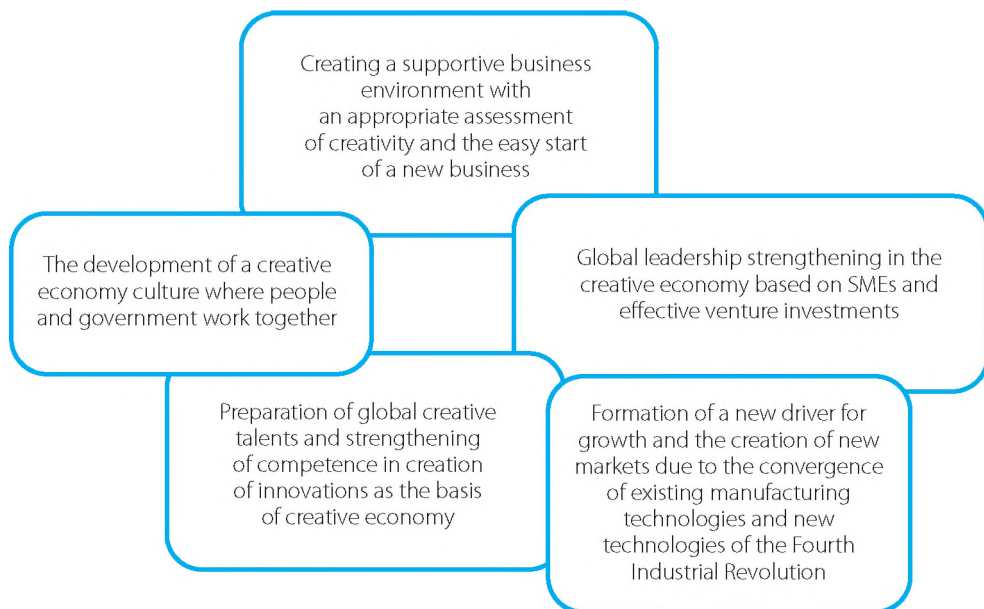


Figure 3.12. *Systemic measures to stimulate the creative economy in Ukraine*

Source: *author's construction.*

The current state of creative industries in Ukraine reflects their urban orientation (the major developed centres are in leading Ukrainian cities such as Kyiv, Lviv, Dnipro, Odessa, Kharkiv and Zaporizhzhya) and cluster model of their organization (IT sphere, art, education, design). Ukraine does not yet have a full-fledged infrastructure of creative industries,

although there is the active development of creative hubs: co-workings, workshops, incubators, laboratories and clusters (Figure 3.9). These new spaces allow a larger number of people efficiently to realize and develop their own talents and creative abilities.

To stimulate the economic creative potential of Ukraine the tools shown in Figure 3.12 are needed.

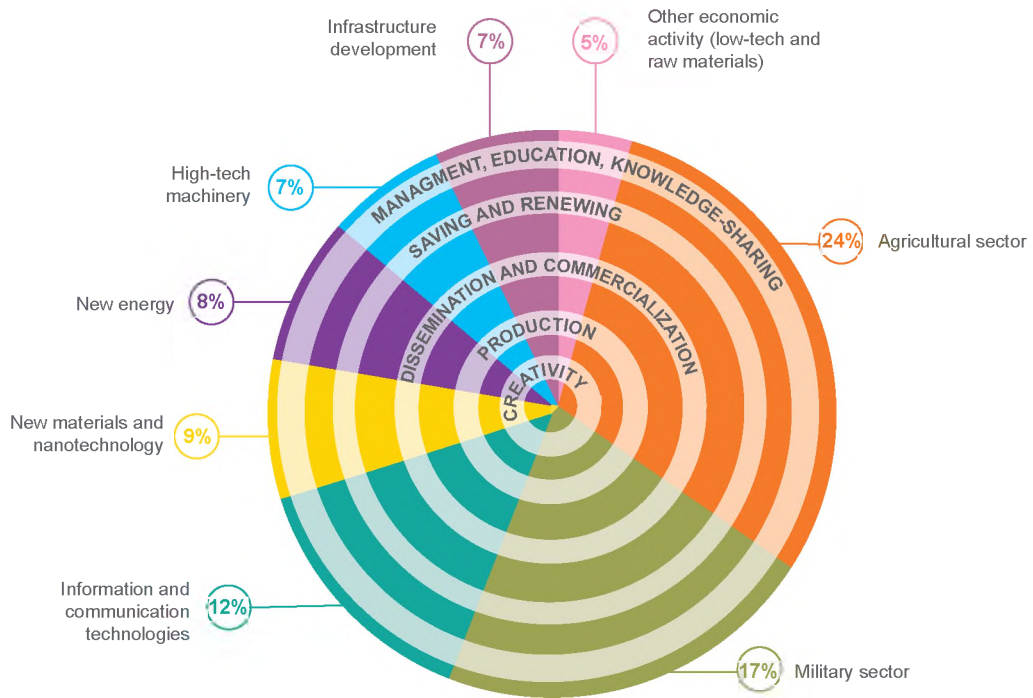


Figure 3.13. The conceptual model of sustainable development for Ukraine according to the methodological principles of the economic dimension of culture by Eurostat since 2011
Source: http://ec.europa.eu/assets/eac/culture/library/reports/ess-net-report_en.pdf

At the core of the human-centric model of sustainable development is the highest manifestation of human activity – creativity. This stimulates, in an innovative way, the production tangible and intangible goods. This requires diffusion in the form of exchange and distribution which will result in the acceleration of commercialization and consumption. The best achievements of such a cultural activity are used by society for transmission of socially essential information in the form of experience, skills and abilities in the course of an education system. The art of management is the process of regulation of production, exchange and distribution. In such a chain of interaction, CULTURE acquires its primary significance - creating a favourable space for human life in a social environment (Figure 3.13).

THE PROCESS OF CREATING A LIVING SOCIAL SPACE IS IDENTIFIED WITH THE DEVELOPMENT OF CIVILISATION. THE RESULT IS A NATIONAL CULTURE THAT MERITS WORLD STATUS

Using the human-centric model of development, the effectiveness of all processes of economic activity should be considered through the prism of human happiness - the simple value to which humanity has desired over thousands of years of civilization. Understanding and recognizing this process can be a catalyst to change economic and political paradigms.

Mechanism #6: The effective implementation and development of human and social capital

The enhancement of the competitiveness of the national economy is one of the main tasks of sustainable development. It can be realized by amplifying the innovation present in economic activity. A suitable area is high-tech manufacturing using wide-ranging increases in the level of scientific knowledge for the production of material and spiritual goods. It needs the widest engagement of high quality in human resources and

performance. One of the tasks of the Doctrine is the development of human and social capital.

Human capital is an economic category that characterizes a set of productive abilities, personality traits and human motivations resulting from the knowledge and abilities gained by labour. Traditionally, human resources in Ukraine were characterized by a rather high educational & qualification level. The share of specialists with higher and secondary special education is 29%. According to the implementation of the Bologna Process in 2015, in 2013 Ukraine was the leader in the proportion of people with higher education in the age group of 25-34 years (37.3 % on average), in the age group 45-64 (44.1%), while the average value was 22.9%.

At the same time, in most studies, there is a lack of attention to the quantitative indicators of correspondence between the needs of the existing economic model and the available human potential. The accumulated human potential in Ukraine is not fully utilised or effective in the national economy which is a critical loss.

The main criteria for the competitiveness of human resources in the international labour market are:

1. Good educational background in the field of fundamental natural science.
2. High professional (engineering) competence (functional literacy), (World Bank).
3. Knowledge and skills in IT.
4. English proficiency.
5. Awareness of EU / NATO documents and standards.
6. Basic managerial, legal and economic knowledge.

In criteria 1-3, Ukraine is at top of human resource competitiveness in almost all age groups. In criteria 4-6, there are good indicators only in the age group of 25-34.

The interaction of four groups of players (Figure 3.14) is necessary for the construction and efficient functioning of the high-tech (creative) economy.

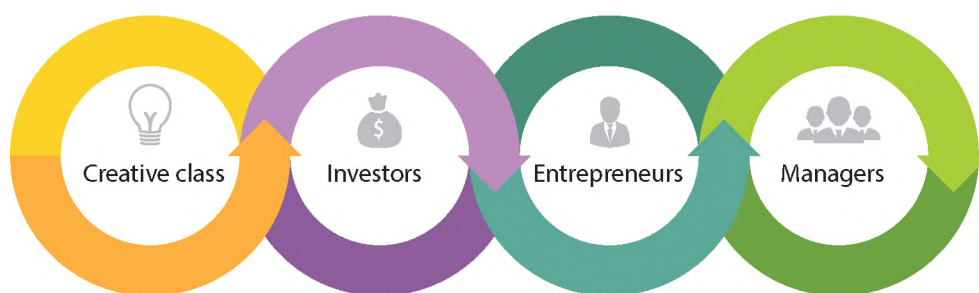


Figure 3.14. Key players in the high-tech (creative) economy

Source: author's construction

The interaction of these groups is represented by the category «**social capital**». The quality of such interaction determines the level of social capital.

A KEY MECHANISM FOR CHANGING THE PARADIGM OF SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE IS THE ELIMINATION OF THE DISCREPANCY BETWEEN THE HIGH HUMAN CAPITAL AND INSUFFICIENT SOCIAL CAPITAL (LACK OF TRUST, DOMINANCE OF MATERIAL VALUES)

The ground for this conclusion is that social capital:

- refers to institutions, relations, social norms and values that shape the social features of society, determines the forms and directions of social interaction;
- is known as a set of social networks and participation in the civil life;
- is an existing level of trust in society among major social actors (actors or their groups that have the necessary resources for independent actions).

The family ranks the first place among the sources and functions of social capital. It is the main foundation for the economic and social well-being of its members. Appreciations to the family, the first level of social capital is created.

Other sources of social capital: community, business structures and industrial associations, civil society, community sector and government institutions, national and ethnic groups, social networks.

The components of social capital are:

- trust;
- social norms and values (social values, values of business communities, universal values);
- classical and virtual networks and groups.

The most common forms of social capital are intellectual and human capital. Intellectual capital is the basis of the knowledge economy. Human capital is the basis for all productive activities, including the knowledge economy.

According to world experts, investments in human capital are very profitable for society as a whole, and for individual human welfare. The profit from the investment is determined by the period of its use such as the time remaining till the end of the workable period in the human life.

Investments in human capital are classified according to the following cost groups:

- primary education;
- health-care;
- education & training;
- increased motivation to improve the quality of work;
- labour migration;
- adult education.

Investments in human capital are in the following areas:

- health-care;
- education and training system;
- sufficient cultural policy;
- satisfactory migration policy.

The length of the labour period in human life directly depends on human health. Therefore, there should be an appropriate system of health care. It should consist of a conscious and responsible attitude to the health of each member of society, appropriate attention to the prevention of diseases, as well as the provision of quality services by the national health care system. The total financing of the health care system involves budget expenditures, informal payments of patients, financial flows of international and pharmaceutical companies' funds. The mutual expenditures of the national health care system are more than 7.5% of GDP in Ukraine which exceeds the level of most EU countries.

On average, in the EU, health care costs from 6.7% of GDP (Poland) to 11.3-11.5% of GDP (Germany, Switzerland, Austria). While in Israel this level is 7.5% of GDP. In Canada, it counts 10.9% of GDP, while in the US - 17.9% of GDP.

According to the forecasts of the Institute of Demography and Social Research named after M.V. Ptukha of the National Academy of Sciences of Ukraine, by 2020, less than half of the population of Ukraine will be persons of working age. While about one-third of the population will be an over 60 years. This means that a larger proportion of the population will require more expensive treatment. Healthcare costs will increase rapidly over the next five years.

According to World Bank, 43.6% of total health care costs in Ukraine are from the private payments of patients. The survey shows that

33% of households have medical expenses of more than 10% of their gross monthly costs (for comparison, it is 5.8% on average in the EU countries). 15% of patients-respondents refuse treatment because of its high delivery costs.

Medical poverty has appeared in Ukraine as a new kind of poverty due to the high level of prices for medical services. The complexity of this problem has not yet been comprehended at the state level. It also does not receive sufficient attention from society. Any household can enter this social group (medical poverty) after the diagnosis of serious illness (i.e. oncology, cardiovascular diseases). The family can go bankrupt regardless of previous material wealth and income.

Therefore, the primary protection of households from medical illness and bankruptcy due to illness is critically important. It requires:

- to reduce inefficient health care costs;
- to provide a legal form of existing informal payments;
- to determine the volume of medical care and medical services guaranteed by the state;
- to introduce a system of prevention and state compulsory social health insurance;
- to bring the technology of treatment to a qualitatively new level; to change registration and forecasting of the health care system needs, in particular, to implement e-Health (a special system of electronic records and registries of patients);
- open e-health market.

A peculiarity of the national education system is the traditionally high level of financing. The maximum education expenditures amounted to 8.2% of GDP in 2009, 6.9% of GDP in 2014 and 6.4% of GDP in 2015. The rates of financing education in Ukraine exceeds the average of 5.3% of GDP for OECD countries in 2012.

The national education system should be prepared to respond to the challenges of the future:

- to identify the demand for future specialists and future skills for the labour market;
- to ensure the provision of high-quality educational services at all educational levels: primary, secondary, basic higher education level, master's degree, training of scientific and teaching staff, lifelong learning;
- to provide a state order for training specialists that are critical for the national economy (at all educational levels, including the training of scientific and teaching staff). Besides, there should be some compensatory levers for such graduates if they prefer to work abroad afterwards;
- to stimulate the development of training programs in close cooperation «education - science - employers»;
- to ensure equal access to educational services at a primary and secondary level as well as at the basic level of higher education for all segments of the population.

STRUCTURAL CHANGES IN EDUCATION AND SCIENCE:

World experience suggests that a system of knowledge generation, based on an effective system of national education and a strong R&D sector, is a prerequisite for overcoming the technological gap in the country. Researchers totalled only 0.49% in the total number of the employed population of Ukraine in 2013- 2014 (1.16% in 1990). This is the level of such countries as Romania (0.46%) and Cyprus (0.71%). In Finland and Denmark this rate reaches 3.2%, in Switzerland – 2.66%, in Norway – 2.56% and in Slovenia – 2.27%.

The main indicator of investments in science is knowledge-intensity of GDP. In the EU it averaged 2% of GDP. For Finland, Sweden, Israel, Japan and South Korea it exceeded 3% of GDP. Ukraine is distinguished by an

accelerated decline in the level of knowledge-intensity of GDP: from 1.81% in 1991 to 0.6% in 2014. In 2016, knowledge-intensity of GDP in Ukraine was less than 0.3% of GDP.

Qualitative changes in national scientific and educational systems should reflect the implementation of the following declared principles:

1) Harmonization of development goals in the context of cooperation within the Horizon 2020 program, ERAC:

- combining research and innovation by removing obstacles to innovation and facilitating cooperation between public and private sectors in the transfer of innovation;
- raising the exemplary status of science - creating a new class of researchers;
- industrial leadership;

2) introduction of European principles in all fields, particularly:

- transparency;
- openness;
- equal access to information;
- equal treatment and non-discrimination;
- proportionality;
- trust;
- mutual recognition.

It is essential that there is a rise in the social status of science and education in Ukraine. So, there is a need for a new assessment system for scientific and educational activities to determine the level of new scientific and technical knowledge, scientific and technical information and educational services.

The components of this new assessment system are:

1. A competent approach to motivate the researcher to work in priority sectors of global science in order to identify the prospects for the Ukrainian science development.
2. A horizontal approach to performance evaluation: 1 year, 5 years, 20 years. Evaluation reports should be provided annually or every two years.
3. A personalized approach where the scientist-researcher is a generator and adopter of innovations along with personal responsibility and accountability.
4. Independent scientometric monitoring of publications as a prerequisite to funding scientific projects, programs, directions (introduction of the Snowball Metrics).
5. Consideration of the military situation in the country, funds accumulation, targeted state grants and funding of defence-intensive areas, implementation of the «Savings and targeted effective usage of each hryvnia of every taxpayer» program.
6. Eliminating the role and participation of administrative and managerial personnel in scientific projects, exploiting the role of the individual researcher in the individual and collective forms of scientific and research activity.
7. The introduction of a «personal responsibility» tool for incorrect or inaccurate information (in reports, applications, scientific and technical documentation), for the inappropriate or ineffective spending of public funds. This supposes a mechanism for acquiring personal responsibility (for example, withdrawal from a call, no application for a certain period (up to five years) and the levelling out of all reporting information).
8. The current model of Ukrainian science can be characterized as a socially oriented post-Soviet model. It functions on principles that do not correspond to the agenda of the national economy and society. In the next ten years, the retrospective- & -reproductive model of science in Ukraine needs to be transformed into a perspective- & -innovative one (as in the United States, Great Britain, Israel, France).

9. Equipment and machinery purchased by research institutions at the expense of public funds or within the framework of government orders should be used on a free basis by scientific consortia who are operating on state grants. Using state grants to repair, utilize or buy complementary materials for such equipment should be prohibited.
10. Ukrainian social science should become competitive with existing analytical non-governmental organizations that are funded by foreign donors to conduct analyses of the situation in Ukraine. In social science research in Ukraine, there is an urgent call for transition and structural reorganization over time. There should be a restructuring from institutes to laboratories (deployed, of top-ranked scholars), centres in correspondent government institutions and universities (Think Tanks).

The complementary effects of these mutually agreed tools for stimulating the education, investment markets, the labour market, entrepreneurship, information policy, as well as industrial and regulatory policies, are one of the most important institutional changes in the government activities in scientific and technological policy.

Under the «open innovation» model of Ukraine, **the state should spin its role – from the regulator of scientific and technical activities to the activator of R&D and its accelerator to transform into R&D&I.** This is the prerequisite for a sustainable development model in Ukraine.

The concept of cultural and scientific exclusivity initiates institutional changes along with the relevant regulatory and legal framework and a major change in fiscal policy.

A NEW CULTURAL POLICY

The Fourth Industrial Revolution is characterized by the development of digital technologies, globalization and the change in the interactions between the individual and society. Thus, there should be an essential change **in the mission of the Ministry of Culture.**

The cultural policy should support a comfortable environment to protect the cultural heritage of the nation, and develop creativity, cultural industries and communications. The state can use this cultural policy to demonstrate its ability to create a comfortable space for citizens to live. It also encourages political will, the ability to manage risks, technological progress, demographic and societal changes and the ability to resolve social conflicts in the way to protect national interests.

Cultural Policy Challenges:

Changing the paradigm of public administration in accordance with the concept of smart governance accepts, inter alia, the prospects for the culture as the prospects for internal and external communications.

The content of cultural policy in this sense is to overcome the limits of inertia of the old styled perspectives and boundaries. Thus, it will become clear that the existing limitations, challenges, restraining factors, problem issues are universal and can only be solved in a comprehensive manner.

As a mechanism of public policy, the culture can play the role of an eloquent indicator of problems in the society. It can then offer and consolidate the necessary resources needed to solve them.

Freedom of communication and digital technology, globalization and changes in the relationship between society and individual demand a re-evaluation of the role of cultural policy in sustainable

development. It requires a fundamental revision of the mission, functions, legitimacy, space and tools of the activity of the Ministry of Culture as a key Player, but also all institutions of culture and communication in Ukraine.

FOR SOCIAL ISSUES THAT INCLUDE GLOBALIZATION, DIGITAL TECHNOLOGIES, SOCIAL CHANGES AND THE PROTECTION OF NATIONAL IDENTITY, A NATIONAL DIALOGUE IS NEEDED AS WELL AS CULTURAL RELATIONSHIPS WITH ALL INTERNATIONAL PARTNERS

Consequently, the strategy of a cultural policy is to determine the appropriate content and mechanisms of political activity. At the same time, tools for cooperation with other ministries (on foreign affairs, education, science, education and sport, ecology, economics, regional development) should be revised. Such a strategy is impossible without research into cultural practices and a comprehensive analysis of the results. That should be the subject of systematic regular publications.

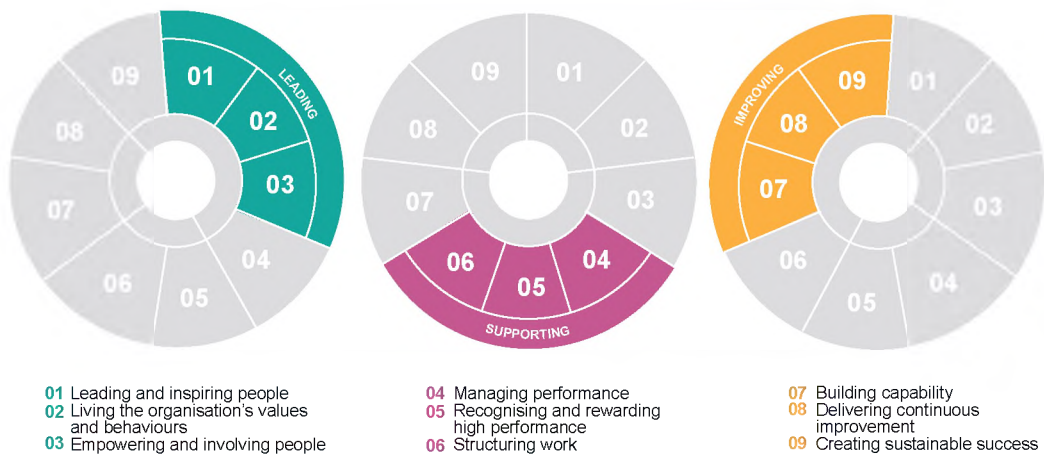


Figure 3.15. Concentric model of the mechanism launch for investing in human capital at micro, mid- and macro levels
Source: *The Investors in People Standard.*

There are certain mechanisms that ensure a country to achieve an appropriate level of investments in human capital (see Figure 3.15).

The impact of socio-economic and political space on human capital

According to the UN Development Program, the growth in the volume of production is important for the provision of the resources that are required for the development of society but it does not help the development of individual human potential. Human development as a process enables people to expand their abilities, knowledge and skills. That is a key task when modernizing society. According to the UN, in Ukraine

«THERE IS AN UNDERVALUATION OF THE IMPACT OF HUMAN DEVELOPMENT ON ECONOMIC GROWTH. THIS IS A KEY BUT NOT A SINGLE CAUSE OF THE GAP IN THE DEVELOPMENT BETWEEN UKRAINE AND OTHER COUNTRIES»

One of the serious challenges for a national economy, which is unbalanced with the needs of high-tech industries, is to maintain a significant number of employees that work in a different field to the one in which they graduated.

A survey of graduates and employers testifies that only half of Ukrainian graduates work in the speciality in which they graduated. This updates the call for forecasts of the mid- and long-term needs of the national economy in the human resources of the corresponding qualifications. It is extremely important to draw conclusions about the level of provision of the main sectors of the national economy by high-quality human resources (Figure 3.16.).

So far, the drivers for future economic growth have a low level of provision by the relevant specialists: from 3% of the needs for the life science sector to 35% of the needs for the ICT sector.

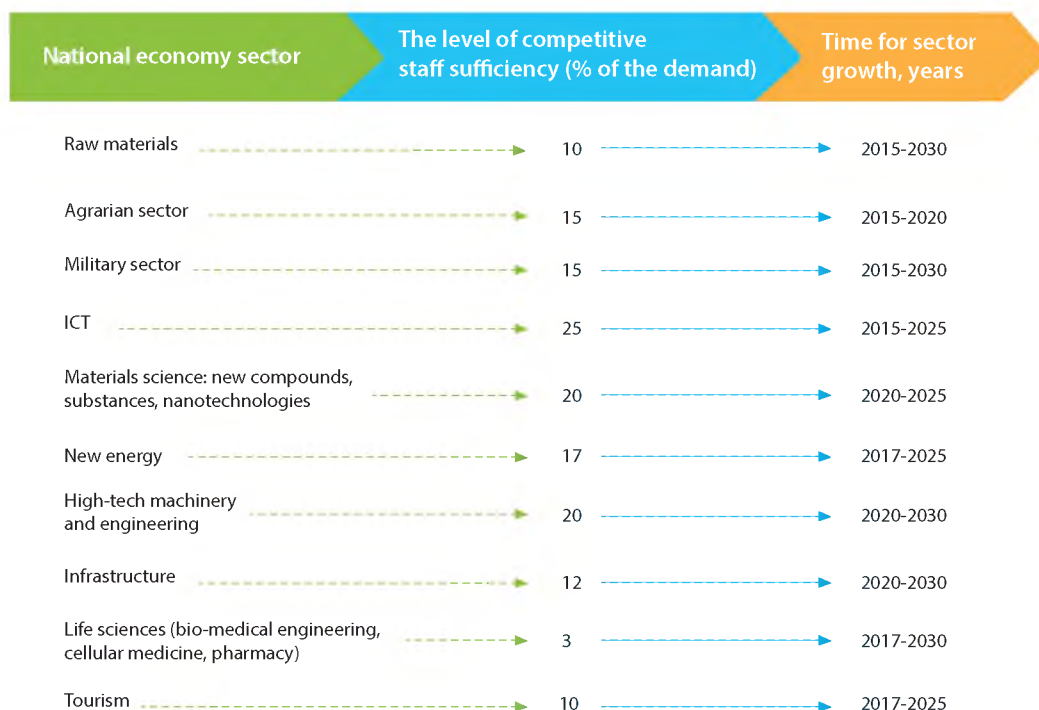


Figure 3.16. Provision of sectors of the national economy by competitive personnel (foresight research)

Source: Foresight Ukraine, 2016.

In order to achieve sustainable development, Ukraine must overcome a significant gap between existing and required human capital with regard to the establishment of a dialogue and effective interaction between business, education, science and culture.

The specified challenge is quite complicated one. It requires an effective upgrading of the existing potential in the following areas:

- 1) the construction and development of an extensive network of dedicated research and practical institutes in the national health system (Institute of Heart, Institute of Paediatrics, Obstetrics and Maternity, etc.);

- 2) innovative transformation in the national education and science systems with the support of relevant scientific and pedagogical schools;
- 3) an essential change in the entire system of regulation of cultural and informational space.

Mechanism #7: Financial support for sustainable development

The sustainable development of Ukraine requires an appropriate financial mechanism and a balanced interaction of an efficient banking system, the pension system, insurance policy, stock market, as well as an advanced Tax Code. The Ukrainian financial market is at a critically low level as a significant share of the money is stored outside the banks. **The cash savings of households is 17% of GDP (according to the State Statistics Service of Ukraine) and the share of the shadow economy amount is 52% of GDP (according to the Ministry of Economic Development and Trade of Ukraine).**

As part of the Globalization process, any national capital which has decreased because of foreign and transnational capital should be adequately compensated by novel management technologies in the Ukrainian banks. Banks should implement: modern regulatory instruments, support the domestic stock market development, increase the financial literacy of the population and take an active role in economic processes.

The banking system is an important channel for capital redistribution in the economy. The main purpose of banking is the provision of financial support for economic entities and economic growth. The banking system is regulated by the National Bank of Ukraine (NBU). In 2014-2016 years it was affected by a number of negative factors that subsequently led to an 80% of inflation rate and 300% devaluation of the hryvnia. This, in

turn, had a devastating effect on the well-being of Ukrainian citizens and caused the complete collapse of the entire banking system.

Unfortunately, a large part of the healthy banking sector was also destroyed along with toxic banks as they faced problems with liquidity and unacceptable pressures from the NBU. Therefore, the NBU needs to rethink its mission in order to stabilize the hryvnia and stop inflation.

The major mission of the NBU should be to ensure the effective development of the national economy. The hryvnia should become a competitive and firm investment currency. The reform of the NBU would restore the trust of both the population and business. The NBU must be transparent and accountable to the community and establish a high level of professionalism when implementing monetary policy and supervising the other banks.

Priority steps to reform the NBU:

- multi-targeting «many targets - many tools». In the soft regulation of the hryvnia and inflation, first and foremost is to provide the necessary supply of money for the national economy. Only by maintaining existing and creating new jobs the NBU will be able to support these targets;
- as the state controls 52% of the assets in the banking sector, it is necessary to separate banks into commercial and specialized ones. The state-owned banks need to create:
 - a «bank of savings» which will provide full protection of deposits by the population and will not lend to business. It will only provide resources for the government and commercial banks with the consent of the NBU;
 - an «export-import bank» to fund high-tech exports and critical imports in order to realize the needs of sustainable development;
 - a «development bank» to fund regional and municipal development projects, infrastructure, science, innovations and high technologies;

- a «land bank» to fund agricultural production and the processing of agricultural products, as well as the purchasing of land (priority should be provided to farmers and co-operatives);
- the number of state-owned banks can lead to the spread of corruption. Thus, it is necessary to comply with the requirements of the Basel-II standard and implement Basel III. In addition, negotiations should be initiated to access the capital of international financial institutions (IFC, EBRD, etc.);
- the introduction and coordination of a lending program for small and medium-sized businesses on preferential terms to stimulate economic growth. Also, they should provide micro-lending, and mortgages to enable individuals to buy houses (primarily for ATOs participants and non-residents);
- to suspend the activities of the NBU on the liquidation of liquidity in the banking sector (Bonds of the Internal State Loan and deposit certificates);
- to encourage the population to invest their savings in the banking sector (almost \$ 60 billion) due to secure deposits at Oshchadbank;
- to attract foreign investment from international companies. A mechanism is needed for providing state guarantees to particularly important infrastructure, logistics and regional programs;
- to remove all restrictions for foreign investors regarding investments and profits;
- to launch a large-scale information campaign in Ukraine and beyond to restore confidence in the most important banking institutions of Ukraine;
- to accelerate the adaptation of European norms and standards in the banking sector which will enable Ukrainian banks to penetrate international financial markets.

The above steps would enable the Ukrainian banking system to become part of the global banking community.

THE GENERATION OF INTERNAL AND EXTERNAL INVESTMENTS IS THE GROUND FOR AN AMBITIOUS LEAP FOR UKRAINE. THERE IS THEREFORE A REQUIREMENT FOR THE NATIONAL BANK OF UKRAINE TO REGAIN THE TRUST OF UKRAINE. AN EFFECTIVE BANKING SYSTEM IS FORMED NOT BY THE INSTITUTION ITSELF BUT BY THE TRUST IT GENERATES

Ukraine's stock market is currently in a terminal state. Only the full functioning of market mechanisms will enable Ukraine to ensure enough financial resources to sustain development. Consequently, an urgent task is to regenerate the Ukrainian stock market. To ensure that the new stock market functions effectively, it is necessary:

- to modify the capital market infrastructure;
- to encourage individuals to invest;
- to create positive expectations and confidence of market participants;
- to optimize the requirements for stock listing etc.

The main steps to develop the stock market should be:

1. Redesign how it redistributes property rights when implementing privatization programs. This will help it to accumulate and redistribute investment resources.
2. Create an effective national deposit-clearing system. It is critical to consolidate all institutions of the stock market (under the control or with the participation of the state) into the stock exchange and an exclusive central depository of corporate securities. This is possible by merging the existing depositories - Interregional Stock Union, All-Ukrainian central depository, the depository of the NBU and the National Depository.
3. Improve the accounting system dealing with the ownership of securities by using international standards. Also develop a system for circulating securities and derivatives by simplifying the procedure for securities transactions with the participation of non-residents.

4. Diversify the financial instruments available to investors and introduce instruments for derivative securities and risk-hedging. There should also be a transparent system for taxing transactions.
5. Provide information to foreign investors on potential opportunities to invest in the national stock market which will create a more positive image.
6. Develop and implement normative and methodical instruments to issue private investment securities for retail sale to individual investors as well as government debt securities. This should be accompanied by setting realistic targets for the allocation of funds that will help to achieve sustainable development.
7. Develop joint investment institutes for financial intermediation as alternatives to the banking system.

The improvement of the Ukrainian stock market is an important institutional step in the reform of the national economy and *the privatization of state-owned enterprises*, most of which are ineffective. The direct sale of such enterprises in open and transparent contests or selling their share on the stock market will allow not only the receipt of additional funds into the state and regional budgets, but also create the necessary incentives for boosting economic growth.

At the same time, existing strategic enterprises and important infrastructure objects, which are the basis of national security, should remain state-owned.

Along with the legislative, institutional and procedural consolidation of property rights and increased confidence in financial institutions, an efficiently functioning stock market, (including components such as joint investment institutions and private investment funds), will provide a powerful incentive to develop the Ukrainian insurance market. This market is currently extremely undeveloped and unbalanced. Such a situation does not allow insurance institutes to play an appropriate psychological, socio-economic and investment role in the innovative transformation of the national economy.

The existing problems of the *Ukrainian insurance market* provide a focus for its reform;

- the promotion of widespread life insurance, medical insurance and other types of personal insurance (currently, this segment of the insurance market in Ukraine is insufficiently developed and dominated by corporate insurance);
- a legislative reinforcement of assured rights (very often the assured are without legal compensation after bankruptcy or other forms of termination of the insurance company's activity, notwithstanding the corresponding obligations of the insurance company);
- ensure equal conditions for all insurance companies regardless of their ownership, capital / assets or specialization;
- the essential enhancement in the quality of the monitoring insurance companies. Self-regulating institutions could be developed which would result in a reduction of state intervention without losing effectiveness;
- a taxation regime with economic incentives to develop legislative and tax incentives for innovative insurance products;
- limiting the intermediaries between the company and the insured to minimize opportunities for abuse;
- develop and implement an effective and representative rating system for insurers. This would act as a stimulus to obtain, in addition to national ones, international ratings and thus help the entry into the international insurance market;
- improving the reporting system of insurance companies to eliminate the risks of false information and fictitious activities;
- boost competition in the market by creating favourable conditions for the development of regional insurers and for the activities of foreign capital insurance companies;
- provide state support for the education of qualified specialists (insurance agents, underwriters, actuaries, insurance engineers and insurance detectives) in order to satisfy market demand.

The next important component of this financial mechanism is the sub-system of *pension insurance*, which consists of three levels:

1. **The solidarity system** of compulsory state pension insurance (all funds transferred by enterprises and insured persons to the Pension Fund of Ukraine are paid to current pensioners).
2. **The cumulative system** of compulsory state pension insurance (part of mandatory pension deductions is directed to personal pension accounts of working citizens).
3. **Non-state pension provision** (individuals and legal entities voluntarily transfer their assigned amount to their own (or self-employed) pension accounts).

The comprehensive stimulation of non-state pension funds and personalized pension accounts of citizens as well, as the enhancement of the financial literacy of the population, will transform the accumulation of personal pensions into an important source of long-term investment for enterprises of the national economy. At the same time, the share of the Pension Fund of Ukraine (the total amount of pension savings) will gradually decrease and by 2030 will not exceed 50% (now this indicator is 99%).

The reform of the pension system can be achieved by the following:

- establishing a single state register of pensioners (according to experts, about 20% of payments from the State Pension Fund currently are not confirmed by the physical availability of the recipients);
- eliminating the multiple taxations of individual pension savings of citizens (the taxation of income received by citizens from investing their own pension savings when taxes have already been paid);
- significantly reducing the degree of differentiation between the minimum and maximum possible pensions that are paid from the Pension Fund of Ukraine;
- conducting an audit of the legality of privileged pensions (Chernobyl, military, special circumstances at work, etc.) and eliminating cases of

unreasonably high pensions at the expense of the Pension Fund of Ukraine. Appropriate changes to the current legislation are needed to eliminate the possibilities and mechanisms for obtaining such pensions in the future;

- the non-discrimination of working pensioners (exclusion of pensions of working pensioners from the total taxable income);
 - the reduction of the mandatory retirement pension rate (single social contribution) to a level that will make the payment of grey wages unprofitable, and, thus, contribute to an increase in the tax base;
 - introducing tax incentives for business to increase pension deductions.
- The tax system should be aimed to increase tax revenues by stimulating the economic activity of economic entities. As a result, an increase in the tax base and a corresponding increase in tax revenues to the state and regional budgets will take place. The basic principles of the tax system should be the non-variability of the registration conditions; the minimum terms of business activity / termination of economic activity during the declared period (fixed registration procedure, list of reporting forms and terms of its filling, as well as licenses for certain types of activities and conditions for their issuing); the stability of the tax base (no raising the rate of current taxes and fees and no new fees / taxes introducing).

The reforms of the tax system can be achieved by the following:

1. A significant reduction in the number of taxes and fees and a maximum simplification of its management.
2. The establishment of rates for taxes and fees at a level that makes it economically inappropriate to avoid paying them. Thus, Ukraine is among the countries with the highest tax burden (51.9%) and occupies the fifth place in the world with 43.1% for the level of load on the payroll - (PwC Paying Taxes-2017 report). Such a burden on the payroll impedes the development of high value-added productions where wages represent a significant part of the costs. It preserves the raw material orientation of the national economy.

3. Eliminating the influence of the human factor in the process of collecting taxes and maximizing the possibility of a remote tax payment.
4. Radically reducing staff in the state tax service while improving the efficiency of its activities.
5. Abolition of compulsory payment of taxes in the absence of economic activity.
6. A simplified registration procedure for new enterprises and individual entrepreneurs (excepting activities that require special permits).
7. Stimulating economic activity by reducing the tax base for the amount of profit reinvested in the development of high-tech industries.

Another important area for financing sustainable development involves assets (material, intellectual, human capital) that were withdrawn by Ukrainian business as a result of legal chaos, a lack of property rights protection and tax disorder. Consequently, an important task in creating a favourable business and investment climate and reform in fiscal, legal and other systems (including the regulatory and management aspect) is to develop and implement economic incentives to return these assets to the national economy.

The consistent and integrated development of all components of the financial system of Ukraine will enable the powerful financial and investment cluster formation. That will become a real alternative to short-term speculative capital from the international financial markets and will provide the needs of the national economy in long-term resources for sustainable development. Given an effective economic (including industrial), monetary, a fiscal policy it will become one of the key factors of a sustainable development in the long-run.

Mechanism #8: Stable Investment Security

All mechanisms mentioned in Part III of the Doctrine are triggered by internal resources and external debt-driven financial flows.

International investment space now operates in accordance with market rules, in conditions of severe competition. The countries are the main «players» in the competition for the main product - investment resources. **The largest volumes and, ultimately, the most effective investments are attracted by those countries in which investment strategies are the most successful.**

Ensuring an attractive investment climate and stable investment security in Ukraine **is of strategic importance**. The dynamics of socio-economic development and the possibility of transforming the national economy in an innovative way depends on the realization of this task.

The importance of foreign direct investments and expected benefits

Ukraine has significant regional investment potential which is far from being fully realized - both in terms of the dynamics of investment income and its efficiency (Figures 3.17 and 3.17a). The largest volume of foreign direct investments is attracted to Kiev and not to the regions. Regions such as the Donetsk (up to 2015) and Dnepropetrovsk are investment leaders-recipients.

The Kharkov, Zaporizhzhya and Odessa regions occupy a bit lower position in the attraction of foreign direct investment. Other Ukrainian regions form a homogeneous set of low values (see Figure 3.17.a). This tendency has led to the formation of large depressed zones in Ukraine.

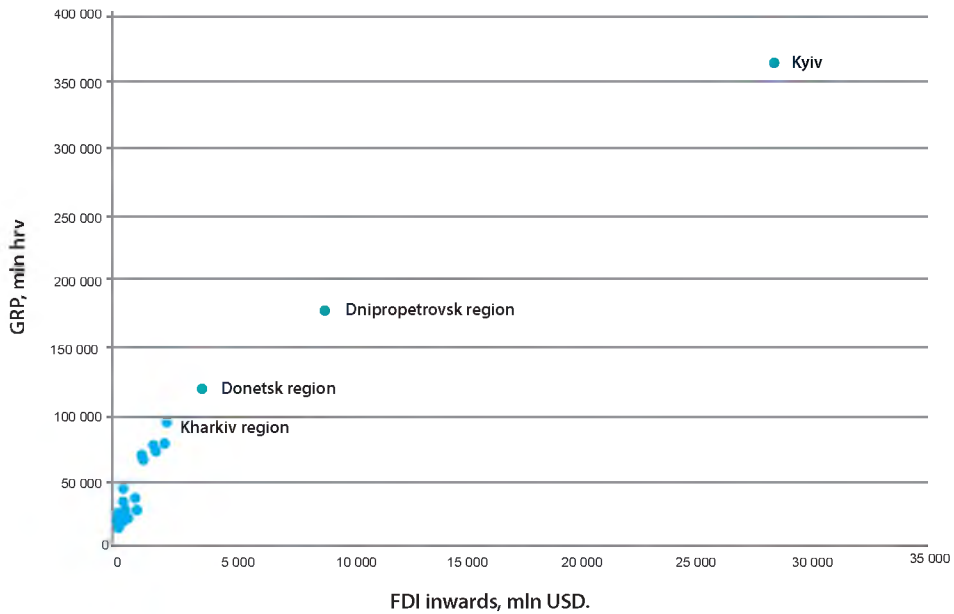


Figure 3.17. Territorial asymmetry of FDI inflows and their impact on gross regional product, 2015

Source: author's calculations according to the data of the State Statistics Service of Ukraine.

The degree of investment heterogeneity has led to the weakening of regional economic interrelations and the growth of contradictions. In the future it may lead to the disintegration of the national economy.

The transformation of Ukraine into an attractive state for both domestic and foreign investment would be reflected by achieving the threshold values of investment security indicators, namely:

- the share of foreign direct investment in the total amount of investments should be at a level of 20-30% and above;
- the ratio of investments to fixed assets - at 25% to GDP and above;
- the ratio of investments to the value of fixed assets - at 6% and above.

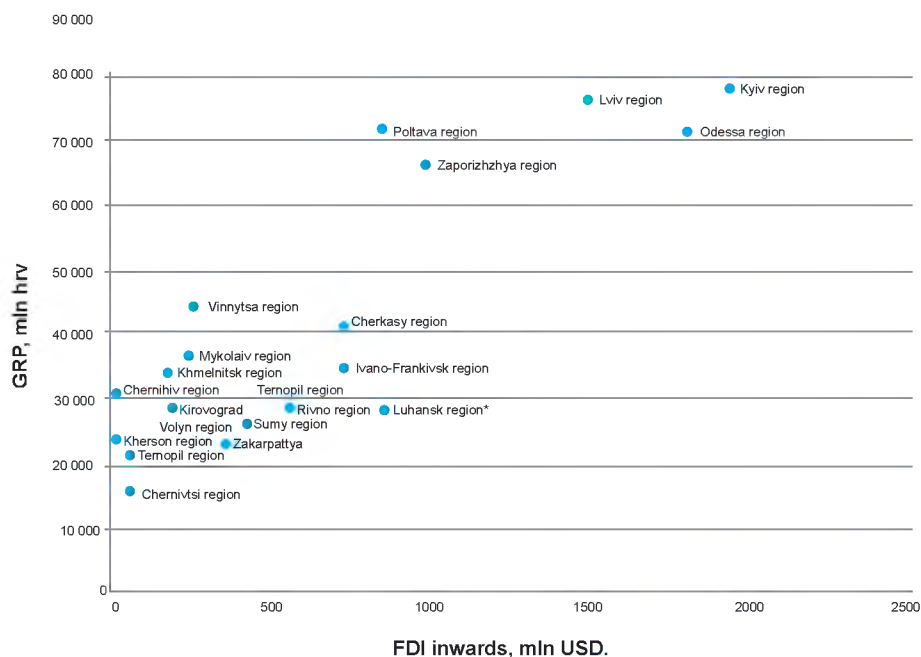


Figure 3.17.a. *Detail of territorial asymmetry of foreign direct investment inflow and its impact on the gross regional product, 2015*

Source: *author's calculations according to the data of the State Statistics Service of Ukraine*

Under appropriate conditions the national economy can launch a «foreign direct investment (FDI) – a technological transfer – social effects» chain (Figure 3.18). The potential impact of foreign direct investments in reducing the poverty rate of the recipient country is shown in Figure 3.19.

Currently, the global distribution of investments is characterized by unevenness. The increase in investments stimulates economic growth in the recipient country.

Thus, **the more developed the country, the greater volumes of investment will be at its disposal.** Therefore, the problem concerning the investment security of a country has a global dimension.

The primary measures for securing sustainable investment are to eliminate:

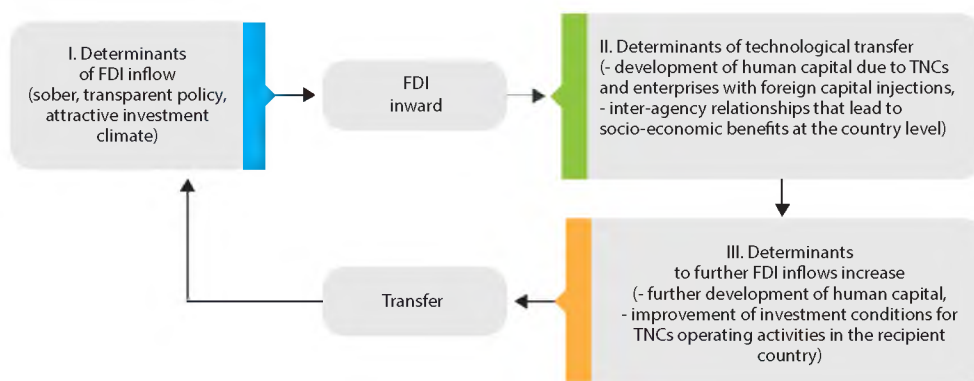


Figure 3.18. Foreign direct investments impact on the national economies

Source: author's construction

- unfavourable investment conditions, in particular, imperfect legislation on protecting property rights, administration of taxes, obstacles in land ownership and strict requirements for the control of entrepreneurial activity;
- lack of opportunities in the programs and projects for state investment;
- imbalances in the functioning of the investment market and asymmetry in the development of investment infrastructure objects;
- legal gaps in the establishment of effective mechanisms for state-private partnerships.

The model «TSP» is the basis for the development of an investment strategy and investment policy in Ukraine (Figure 3.20).

The most important aspects for protecting investors are:

- open access to lending for small and medium-sized businesses in the Development Bank and in special funds created and managed jointly with international development institutions;
- an extensive innovation and investment infrastructure;
- a mechanism for public testing of investment projects in industry;
- integration of investment legislation within the Investment Code of Ukraine;

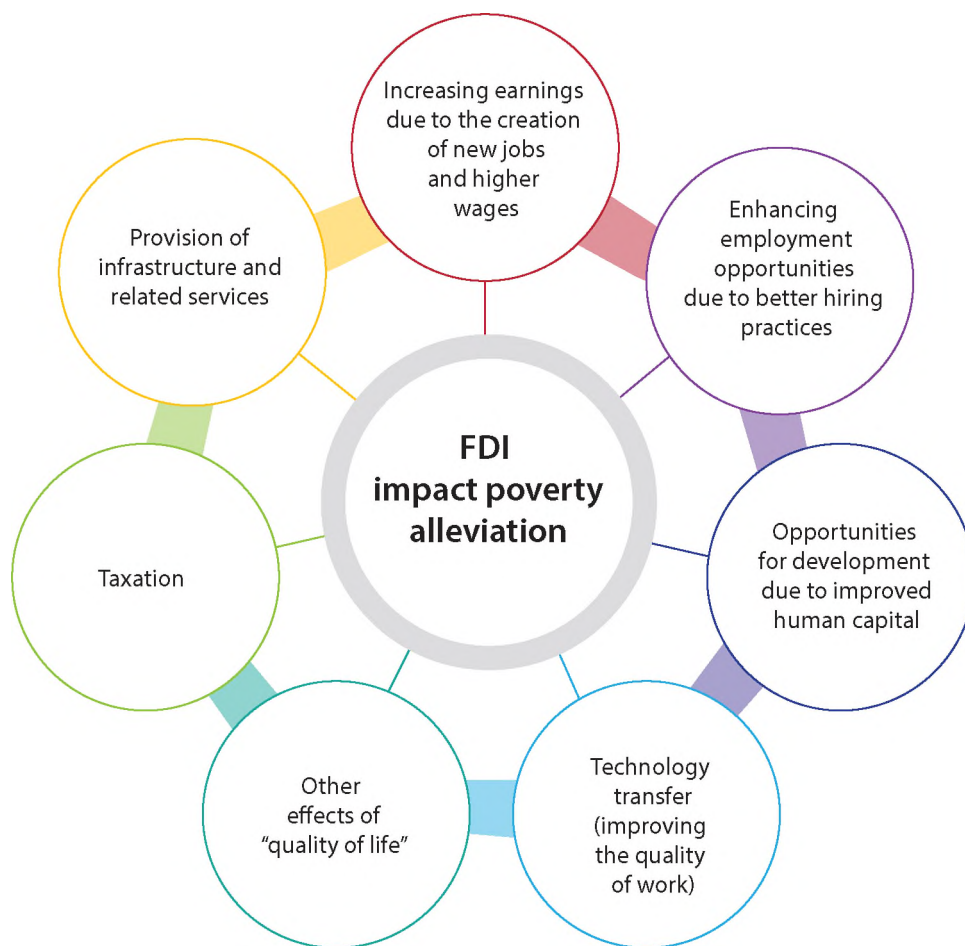


Figure 3.19. *The scheme of the potential impact of foreign direct investments on the poverty rate reducing in the recipient country*

Source: *author's construction*

- a national system for insuring investment for long-term projects by establishing a state-shared insurance company and ensuring its penetration into international insurance markets;
- the integration into the European investment space by signing agreements (in particular, the CRS protocol) and the adaption of the ISAA;
- the legislative consolidation of mergers and acquisitions to attract investments. This will avoid the monopolization of leading branches of the national economy by foreign investors;

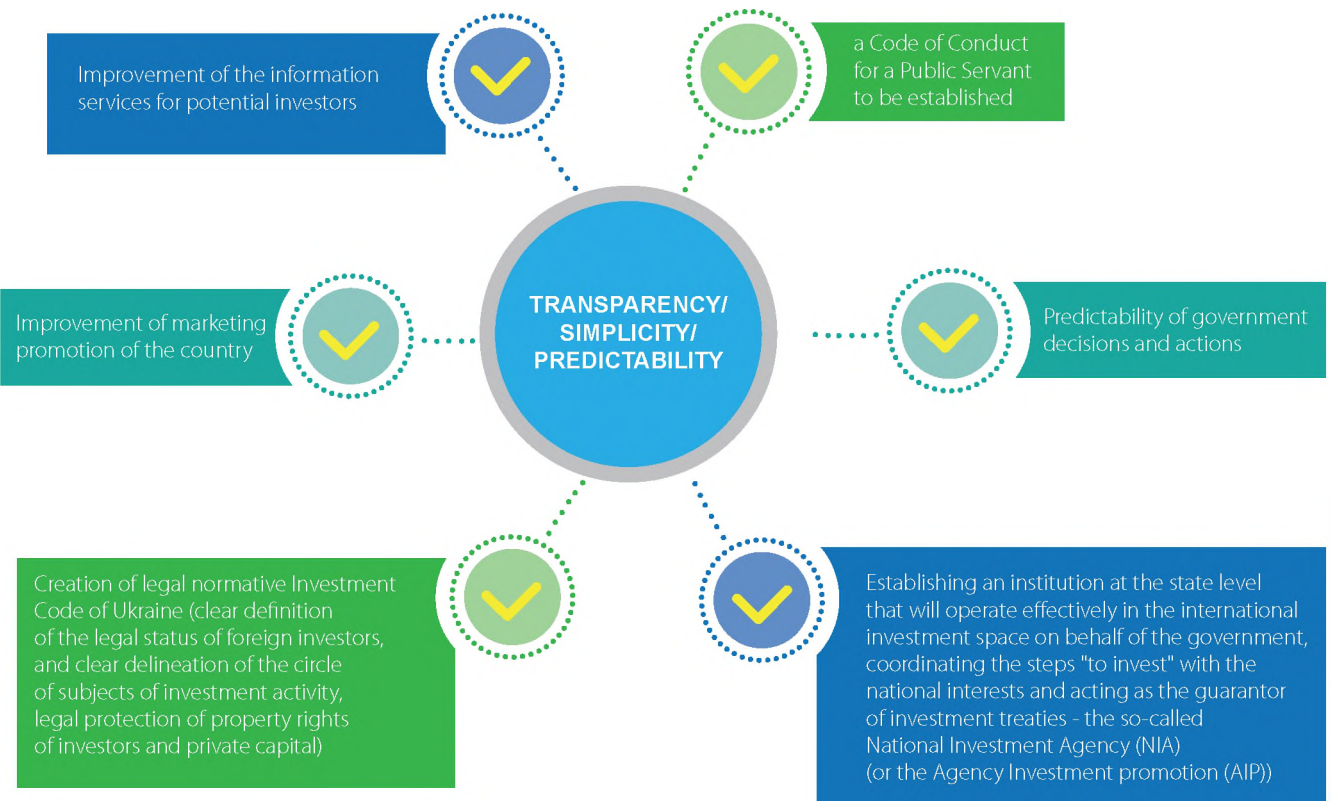


Figure 3.20. Model of the state investment policy
Source: author's construction.



Figure 3.21. *Investment attractiveness of the country: the synergy of the influence directions*
Source: *Investment Climate Attraction Report, France, 2015.*

- conducting an audit of the special regimes of investment activity and clarifying the concept of its application. It is needed to establish a normative-legal basis for economic and rent relations regarding the participation of foreign investors in the development of mineral mines and deposits;
- legislative consolidation to deal with the organisation of corporate and mutual investment funds by mergers and acquisitions;

- implementation of incentive measures for venture capital investment in high-tech projects at an early stage by securing copyright guarantees for investors within venture capital projects. The state should stimulate Reverse-takeover (reverse acquisition) into Ukrainian industrial companies. That means that a Ukrainian company can purchase a foreign company registered within European jurisdiction;
- adoption and implementation of the «Concept of Creating Clusters in Ukraine» and a «National Strategy for the Formation and Development of Transboundary Clusters», which establish a program-specific approach to investments in industry.

Ensuring **the investment attractiveness** of the country can be realized due to the support and synergy of such areas (Figure 3.21).

At the same time, the investment strategy should take into account that, along with the great benefits that Ukraine receives from investment revenues, there are also certain «losses» they can bring. The essence of investment security is to balance the growth of investment attraction with the preservation of environmental security and socio-economic comfort for citizens.

EVERY US DOLLAR INVESTED IN UKRAINE SHOULD BE DIRECTLY OR INDIRECTLY AN INVESTMENT IN THE UKRAINIAN CITIZENS WHICH WILL STRENGTHEN THEIR WELL-BEING, HEALTH, SAFETY AND HAPPINESS

**RESUME
OF THE
DOCTRINE**

The goal of this paper is to present a strategy and a vision of how to build smart, sustainable and inclusive growth in Ukraine through the identification of system errors. It is based on an analysis of the current economic model and scientific research conducted by leading experts of key Ukrainian research universities. Foresight provided the strong methodological tools for analytical and information support of decision-making in the current economic policy.

The current strategies and development programs in Ukraine contain crucial fallacies. Because of the lack of tangible results, the Doctrine can state that the **previous socio-political and economic paradigm is not only obsolete but acts as an obstruction that prevents Ukraine from attaining many developmental horizons. The paradigm has also caused such a rapid decline that Ukraine is becoming a raw material appendage to the developed countries.**

Six major inhibitory factors are discussed:

1. **The war in the East of Ukraine and occupation of Crimea** has had a negative impact on the national economy (25% of GDP lost).
2. **The shadow economy** has reached half of GDP. The introduction of e-governance, the rule of law and the effective and equitable distribution of national wealth will guarantee that this indicator will not exceed the EU average by 2030.
3. **The extent of corruption** caused by the shadow economy reached 14% of GDP. The introduction of an anti-shadowing system to the economy could decrease this value to 4% of GDP.
4. **An inadequate outdated pension system** accounts for 13% of GDP. A consistent and radical pension reform is capable of reducing the state budget burden to 4.8% of GDP. For this, a shift from the fully solidarity pension (first level) to an individual retirement fund (second level) and full operation of private pension funds (third level) is required.
5. **Public debt annually** costs the country 9 billion USD (almost 10% of current GDP) and puts a destructive pressure on the national economy. It should be reviewed to curb the irresponsible accumulation of debt. The

national economy needs no IMF loan but a secure a investment program which is able to ensure reasonable public investment policy (The Doctrine addresses this in detail).

- 6. The energy intensity** of GDP exceeds 3-5 times the level of developed countries. The current 0.298 kg level of oil equivalent per US dollar should be reduced to 0.11 kg level of oil equivalent per US dollar by 2030. That should occur as a result of structural reforms and high-technology innovations along with the increasing competitiveness of the national economy.

A significant reduction in the impact of these critical inhibitory factors should be reflected in **the government anti-crisis program**. The government should take six primary steps within six months of the date of adoption and approval of the Doctrine.

The initial Anti-crisis steps should include the following three key **strategies**:

- 1) An effective response and installation of preventive measures to reduce the inefficiency of the public administration:**
 - make financial resources and investments available through adapting a credit mechanism;
 - diminish the critical magnitude and loss of human capital due to the inefficient and inequitable distribution of national wealth;
 - exclude any inconsistencies of governance that are against the expectations of society.
- 2) Adapting to new demand trends in the global economy and stimulating the development of an internal market.**
- 3) The creation and development of industries with high added value.**

All economic sectors require substantial investments for technological upgrading and improving their productivity.

Using a science-based strategy for **building capacity by enhancing existing capabilities**, the Doctrine proposes the decisions that should be implemented by using the **8 mechanisms** disclosed in Part III.

To implement the above mentioned strategic anti-crisis steps all the available capacity of the national economy should be mobilized, as defined in Part II of the Doctrine. The consolidation of society and the state institutions should be built around the idea of enhancing the authenticity of the national culture and science whilst protecting the national interest. This will enable making the necessary structural reforms for innovation progress in a very short time (6-12 months). A **new social contract** will establish the institutional framework for such consolidation.

The Doctrine justifies the contemporary concept of **Good Governance** i.e. reasonable (smart) government. This supposes the complete reboot of the mechanisms and structure of governance. This involves adapting the values of political elites and Ukrainian society to the current global trends in economic and social development. This will also help Ukraine to overcome the gravitational pull towards other geopolitical formations and to obtain subjectivity in the international agenda.

Using a ground-breaking (for Ukraine) scenario forecasting approach, the Doctrine proposes a model of **innovative development**. This model suggests that the requirements for the sustainable development of the national economy are:

- development of tech industries,
- reasonable distribution of resources,
- fair exchange and consumption,
- the principles of smart, sustainable and inclusive growth for the diffusion of knowledge and innovation,
- efficient exploit of resources,
- stimulation of the economy as a result of the following mechanism:

«Social Contract», «Good Governance» «Network national economy», «Economic activity stimulating», «Creative industry development», «Effective implementation of human and social capital», «Diversification of financial funds», «Stable investment security».

The fulfilment of these requirements will allow Ukraine to achieve the following desired social and economic outcomes:

- **social and territorial cohesion,**
- **an annual growth rates above 10%,**
- **entry into the top 30 competitive countries in 2030,**
- **reduction of poverty and exclusion from the circle of “failed” countries,**
- **a GDP of around 710-750 billion USD.**

One of the fundamental challenges of our times is **the future structure of the economy**. The projected mechanisms and the scenario approach of the Doctrine provide a starting point for a flexible and rapid response to the continuous dynamic change in the global economic landscape.

Analysing the 2030 Agenda for Sustainable Development and comparing the current strengths and weaknesses of the national economy, **the Doctrine determines that human capital is the main wealth and the potential of Ukraine**. Investment in people, i.e. in science, culture, education and health, will give the anticipated result - a high-tech national economy with sustainable, stable and comprehensive growth.

Achieving the above objectives is a major challenge for contemporary public policy. The implementation of the mechanisms will allow harmonization with society, an increase in public awareness and transparency in policy-making.

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